

CORNELL UNIVERSITY OFFICIAL PUBLICATION

FEBRUARY 24, 1951

Summer Session

ANNOUNCEMENT FOR SESSIONS

JULY 2 – AUGUST 11, 1951



SUMMER SESSION OFFICE

The Summer Session office is in Room 245, Goldwin Smith Hall; the telephone of the office and the Director is 4-3211, Extension 2924. The office will be open from 8 A.M. to 12 M. and 2 P.M. to 4 P.M. except Saturday during the six-week Summer Session; on Saturday the office will close at 12 noon. Miss Eleanor Bayley is Secretary; Miss Anita Rynone, Information Assistant.

ADMINISTRATIVE BOARD

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CORNELL UNIVERSITY OFFICIAL PUBLICATION

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Calendar

REGULAR SIX-WEEK SESSION

- July 2, *Monday* Registration for the regular six-week Summer Session, 8:30 A.M. to 12:30 P.M. and 1:30 P.M. to 4 P.M. in Barton Hall. Fees are due for payment at the Treasurer's office, 260 Administration Building.
- July 3, *Tuesday* Instruction begins at the time and place announced for each course. Registration is continued at the Summer Session office.
- July 4, *Wednesday* University holiday.
- July 7, *Saturday* Instruction continues on this Saturday.
- July 9, *Monday* Last day for payment of fees at the Treasurer's office, which closes at 4 P.M.
- August 10, *Friday* Final examinations begin; schedule on page 23.
- August 11, *Saturday* Summer Session ends, 4 P.M.

SPECIAL PROGRAMS

- June 11 to July 21 Summer Field School in Geology.
- June 13 to June 26 Workshop: Care of Young Children in New York State Migrant Camps.
- June 25 to August 11 School of Hotel Administration Unit Courses.
- July 2 to July 14 Workshop: Creative Dramatics for Children.
- July 9 to July 21 Workshop: Family Life Education as a Part of General Education.
- July 9 to July 28 Extension Service Summer School.

Be sure to bring this announcement with you for use on registration day and throughout the Summer Session.

General Information

THE Administrative Board of the Summer Session offers academic instruction for both graduates and undergraduates by members of the faculties of the Graduate School, of the Colleges of Arts and Sciences, Engineering, Agriculture, and Home Economics, and of the Schools of Education, Industrial and Labor Relations, and Hotel Administration.

This unification of the curricula and faculties of the several schools and colleges makes possible the adaptation of academic work to the special needs of summer students. Undergraduate courses are equivalent to required and elective collegiate courses leading to the baccalaureate. Advanced courses, seminars, and informal study, treating topics of concern to students with special interests, are designed with particular regard for what can satisfactorily be treated in a short term and in the summertime. The needs of teachers are met not only in the workshops, seminars, and professional courses in Education, but also in departmental courses. A number of unit programs and special courses are offered for professional workers other than teachers.

All the necessary facilities of the University are available to students registered in the Summer Session: libraries, classrooms, and laboratories; residence halls, dining rooms, and cafeterias; health services and medical care; counseling services; student union, chapel, playing fields, and recreational areas.

ADMISSION

The Summer Session's purpose is to place the facilities of the University at the disposal of persons who can use them to good advantage and for serious purposes during the summer period. Admission will not be granted to persons who are inadequately trained for the work they propose, or whose records in Cornell University or elsewhere are unsatisfactory. Nor will admission be granted to persons whose purposes seem inadequate or inappropriate or better served by other work at other institutions.

Admission of undergraduate or graduate students to the Summer Session establishes no priority with respect to admission to the regular terms. Students seeking admission to an undergraduate college in the fall should apply to the Director of Admissions, 231 Administration Building.

Students are eligible for admission to the Summer Session in three categories as follows:

UNDERGRADUATES. . . An undergraduate candidate for the Bachelor's degree, at Cornell University or elsewhere, is required to pre-register for a program of courses totaling between five and seven credit hours, all of which are approved by the dean, registrar, or other appropriate officer of his college for credit toward graduation. This pre-registration, to be made by completing the undergraduate application form, is final and can be changed only by filing a new application. The special application form for undergraduates will be mailed by the Director on request.

Sophomore standing or above is required of undergraduates regularly attending institutions other than Cornell University. By definition, a student has achieved sophomore standing if he has completed one-fourth of the credit requirements for the Bachelor's degree before July 1, 1951.

June 16, 1951 is the closing date for admission of undergraduates.

GRADUATES. . . Any graduate of a recognized four-year college or normal school is eligible for admission to the Summer Session upon receipt by the Director of the Summer Session of a graduate application form. Graduate students are requested to preregister for a program of courses totaling from five to seven credit hours. This preregistration is made by completing the graduate application form and returning it to the Summer Session office by June 16, 1951. This selection of courses is designed to ensure a place in classes for the student but does not excuse him from registration in Barton Hall on July 2; he may at that time change his selection if he finds classes to which he can be admitted. Admission to the Summer Session in this category does not constitute admission to the Graduate School of Cornell University as a candidate for an advanced degree; see page 12 for information regarding admission to the Graduate School.

SPECIAL STUDENTS. . . Applicants over twenty-four years of age who are not candidates for an academic degree will be admitted to the Summer Session for courses which will help their vocational and personal development.

APPLICATION FOR ADMISSION. . . Application for admission to the Summer Session of 1951 must be made on a special form mailed by the Director of the Summer Session on request. In most cases the information called for on this form will be sufficient.

Registration coupons, necessary for registration in the Summer Session, will be mailed to the applicant after favorable action.

PROGRAM OF STUDY

The normal Summer Session program is six semester hours, which constitutes a full load in the six-week session. Students are advised against registering for more.

Undergraduates are required to register for a program of between five and seven hours' credit. The permission of the Director of the Summer Session is required for programs totaling less than this, and the written permission of the student's dean is necessary for programs as heavy as eight credit hours, the maximum load. Permission for an eight-hour program is usually granted only to those students with a high academic average.

Graduates and special students not enrolled in the Graduate School of Cornell University are required to register for at least four semester hours of credit and may not register for more than seven hours of credit except by permission of the Director.

Graduate students matriculated in the Graduate School of Cornell University may, upon the recommendation of their respective committee chairmen, register for as many as eight hours of credit.

Special permission for registration in certain restricted courses, as noted in the course descriptions (pages 23-63), should be obtained, before filing the application blank, by writing to the instructor named.

ACADEMIC CREDIT

All courses offered in the Summer Session are assigned appropriate semester hours of credit. Registration for a program of courses implies registration *for credit*. The designation, "registration for attendance," has been discontinued. A student wishing to attend regularly a class for which he is not registered should obtain an auditor's permit (see page 8).

GRADUATE CREDIT.... There is, in general, no sharp distinction between undergraduate and graduate courses. In this Announcement each course is marked immediately after the title in one of three ways:

(U)... These courses are intended primarily for undergraduates. Students registered in the Graduate School of Cornell University will not receive credit for these courses toward an advanced degree unless such credit is specifically recommended by the committees in charge of their work.

(U,G)... These courses are offered both at the graduate and the undergraduate level. Graduate students who are candidates for advanced degrees or who wish certification for work done at the graduate level must indicate at the time of registration their intention to com-

plete the course at the graduate level and must be prepared to do any additional work that may be required. Such students registered in "U,G" courses should consult with their instructors early in the session to see that the level is properly recorded.

(G)...These courses are intended primarily for students who are candidates for advanced degrees, for teachers, and for others who wish certification to accrediting agencies for work done at the graduate level. Undergraduates with adequate preparation may register for these courses only after receiving permission from the instructors in charge.

CREDIT TOWARD DEGREES AT CORNELL UNIVERSITY...

A student matriculated in an undergraduate school or college of Cornell University will be admitted to the Summer Session only after the appropriate officer from the following list has approved and signed his application for admission.

College of Agriculture: Professor J. P. Hertel.

College of Architecture: Secretary R. P. Lang.

College of Arts and Sciences: Associate Dean M. L. Hulse.

College of Home Economics: The student's counselor.

College of Engineering: *Chemical*, Professor C. C. Winding; *Civil*, Professor N. A. Christensen; *Electrical*, Professor H. G. Smith; *Mechanical*, Professor G. R. Hanselman.

School of Hotel Administration: Professor H. B. Meek.

School of Industrial and Labor Relations: Professor C. A. Hanson.

This approval will indicate that the school or college will accept credit in the stipulated courses as credit toward a degree.

No student may receive credit for more than eight semester hours of work done in a single six-week summer session.

CREDIT IN INSTITUTIONS OTHER THAN CORNELL UNIVERSITY...

An undergraduate enrolled in another institution, before admission to the Summer Session, will submit as part of his application a program of courses approved for credit by an officer of the institution in which he is a candidate for a degree. When admitted, the student will be preregistered for those approved courses. At the end of the Session an official transcript of the Summer Session record will be sent to the institution. The transcript will show what courses have been taken, the amount of credit in semester hours, and the grades received.

GRADES... All grades are reported in a numerical scale from 0 to 100. If a student *for medical or other important reasons* must be absent from the last class meeting and cannot make up the work before the last day of instruction, he may request the instructor to report his grade as *Absent*, together with a conditional numerical grade which may be used

as the final recorded mark if the course work is not completed by January 1, 1952. It is the student's responsibility to make such specific arrangements with his instructors when necessary.

No other grades, for instance, *Incomplete*, are given in the Summer Session.

The colleges of Cornell University regard the grade of 60 as the lowest passing grade.

REGISTRATION

Registration for the six-week Summer Session will take place Monday, July 2, in Barton Hall. Each student's certificate of admission, which is included with the registration coupons, will give the hour of the day at which he will be admitted. Directions for registration procedure will be issued at the entrance. Students who for any reason have not received a certificate of admission will report to the Admissions table at Barton Hall after 9 A.M.

Graduate students who are candidates for degrees at institutions other than Cornell University, and who are planning to obtain credit toward these degrees by their Summer Session work, do *not* register in the Cornell Graduate School, but only in the six-week Summer Session. Before so registering they should arrange for the accrediting of this work by the institutions from which they plan to take their degrees. Other students who hold Bachelor's degrees, but who are not candidates for advanced degrees, will also register only in the six-week Summer Session.

Registration in the University is required for admission to any of the exercises of the Summer Session.

UNIT COURSES. . . . In the curriculum below, certain courses are announced that are less than six weeks in duration. Usually such courses are designed to occupy the full time of the student. It is therefore impossible for students registered in the six-week session to register for a unit course, or for a student in a unit course to enroll in other courses. The special times and places for registration in unit courses are announced in the course descriptions.

CHANGES OF REGISTRATION. . . . All changes of registration after Monday, July 2, must be made by appearing at the Summer Session office, 245 Goldwin Smith Hall, before 4 P.M. on July 6. When a change of registration involves enrollment in another course, the permission of the instructor of the new course is necessary.

An undergraduate whose program requires change on registration day should report to the Director and must have obtained approval of the change from an officer of the institution in which he is a degree candidate.

Changes in registration include cancellation of a course, change from one course to another, change in graduate or undergraduate level, or addition of a course to a program.

Changes in registration cannot be effected by notifying the instructor of a given course. Students must appear at the Summer Session office before 4 P.M. on July 6 in order to make program changes.

AUDITORS. . . Admission to classrooms during the Summer Session is restricted to students registered for the Session. A student thus duly registered may occasionally visit any class; but if he wishes to attend regularly classes for which he is not registered, he must secure an auditor's permit. Such permits will be granted whenever the student can show a serious purpose in such attendance, if his program is light enough to allow the additional appointment. Auditors do not take part in the work of the courses which they visit, and no record of such attendance is made. Auditors' permits are not issued on registration day; they may be secured on Thursday, July 5, and later at the Summer Session office.

WITHDRAWAL FROM THE SUMMER SESSION. . . See page 9 for information concerning withdrawal.

FEES

All fees are due and payable at the Treasurer's office in the Administration Building on registration day, July 2. The last day for payment of fees without penalty is Monday, July 9. The Treasurer's office closes at 4:00 P.M.

TUITION. . . Undergraduate candidates for the Bachelor's degree at Cornell or elsewhere pay a tuition fee of \$97 for the six-week Summer Session. Graduate and special students pay \$77.

An undergraduate candidate for the Bachelor's degree in the Colleges of Agriculture or Home Economics, or in the School of Industrial and Labor Relations at Cornell, who is a resident of New York State and who is advised by his college to attend the Summer Session, will be awarded a partial tuition scholarship of \$25, reducing the tuition charge in this case to \$72.

Tuition for unit courses is charged at the rate of \$15 per week, which charge includes a pro rata share of the student union fee and administration fee. (Health and hospital services are not available to unit course registrants.)

FEES AND DEPOSITS. . . Six-week Summer Session students will pay, in addition to tuition, a general fee of \$13, which entitles them to health and infirmary services (see page 14), administration services, and student

union membership. Fees for laboratories, field trips, and incidental expenses are charged in certain courses. Special fees are charged for individual instruction in music, golf, tennis, and other subjects.

REGISTRATION DEPOSIT. . . . A student who is registering as a candidate for a degree for the first time in the Graduate School or in one of the other schools or colleges of Cornell University must pay a registration deposit of \$30, unless he has already paid this deposit as an undergraduate at Cornell University. A student registered only in the six-week Summer Session *does not pay* this deposit.

A matriculation fee of \$18 is charged against this \$30 deposit upon registration, and the balance becomes a guaranty fund refunded upon graduation or permanent withdrawal. For further information about this deposit, the *General Information* booklet, which may be obtained upon request from Cornell University Official Publication, Administration Building, should be consulted.

WITHDRAWAL FROM THE SUMMER SESSION. . . . A student may arrange for withdrawal at any time by canceling his registration *at the Summer Session office*, 245 Goldwin Smith Hall. In such cases, the Treasurer may refund a part of the tuition and general fee, or cancel a part of the obligation that the student has incurred for tuition, provided the reason for withdrawal is stated in writing and is satisfactory to the Treasurer and the Registrar. In such cases the student is required to pay 20 per cent of the term's tuition and general fee for each week or fraction of a week between the first registration day and the date of his certificate of withdrawal, unless the withdrawal is made before noon on Friday, July 6. No refund of the health services fee will be made for a student who has used the University's infirmary or hospital services.

OTHER REGULATIONS CONCERNING FEES. . . . Any student, graduate or undergraduate, except as hereinafter provided, who fails to pay his tuition, fees, and other indebtedness, or, if entitled to free tuition fails to claim the same at the Treasurer's office and pay his fees within the time prescribed by the University, is thereby dropped from the University. When in his judgment the circumstances in a particular case so warrant, the Treasurer may allow an extension of time to complete payments. For such an extension, the student will be assessed a fee of \$2. A reinstatement fee of \$5 will be assessed in the case of any student who is permitted to continue or return to classes after being dropped from the University for default in payments. For reasons satisfactory to the Treasurer and the Registrar, which must be presented in writing, the above assessment may be waived in any individual case.

Any tuition fee or other fee may be changed by the Trustees to take effect at any time without previous notice.

CASHING OF CHECKS....The Treasurer of the University accepts checks in settlement of charges payable at his office, but a rule of the Board of Trustees forbids him to cash any credit instrument, even to the extent of accepting a check or draft in amount greater than the sum due and returning the excess in cash. Students are therefore advised to open an account in an Ithaca bank as soon as they arrive in town, or else to provide themselves with travelers' checks, drafts on New York City banks, money orders, or other forms of credit instrument such as a bank will cash in the ordinary course of business.

VETERANS

Veterans who wish to study under Veterans Administration educational benefits for the Summer Session should observe the following instructions.

PUBLIC LAW 346 VETERANS....A veteran enrolling for the first time under educational benefits should bring with him V. A. Form 7-1953, Certificate of Eligibility. If he does not have such a certificate at the time of enrollment, he should bring full-size photostatic copies of his Discharge or Qualification Record. If married he should bring a copy of his marriage certificate from the County Clerk or the Bureau of Vital Statistics. A church certificate, unless it bears the church seal, must be notarized. A birth certificate, showing names of father and mother, must be submitted for a dependent child. If a dependent parent is claimed, the student should bring a notarized affidavit of dependency, V. A. Form 8-509, and a copy of his own birth certificate.

If the student has been in training under educational benefits at some other school, he should bring a Supplemental Certificate of Eligibility, V. A. Form 7-1953. If he should apply for a Supplemental Certificate after arrival at Cornell, he must present V. A. Form 7-1905e, properly endorsed by the institution where he was previously enrolled under educational benefits. The veteran should notify his present Veterans Administration Regional Office in advance to transfer his folder to the Veterans Administration Regional Office at Syracuse, New York.

Veterans in the classifications above who do not present Certificates of Eligibility *on registration day* will be expected to pay for tuition and fees, subject to such reimbursement as may become due. The Veterans Administration will pay training benefits only from the day a request for a Certificate is received in the Regional Office.

PUBLIC LAW 16 VETERANS....If a veteran has been approved, or has applied for approval under Public Law 16 (Rehabilitation), he

should request his present Veterans Administration Regional Office to send his rehabilitation folder in advance to the Veterans Administration Regional Office at Syracuse, New York, with a letter explaining that he is entering training at Cornell. If the student has not yet been approved for Public Law 16 benefits, he should follow *all* of the above instructions for Public Law 346 veterans.

THE GRADUATE SCHOOL

The Graduate School is an administrative unit entirely separate from the administration of the Summer Session. Only candidates for advanced degrees at Cornell University are registered in the Graduate School in the summertime. Students who take course work at the graduate level in the Summer Session, but who are not candidates for an advanced degree at Cornell University, have no connection with the Graduate School.

CREDIT FOR ADVANCED DEGREES...Summer Session credits may be used for fulfillment of requirements for the following advanced degrees, under regulations of the Faculty of the Graduate School:

- Master of Arts (M.A.)
- Master of Science (M.S.)
- Master of Science in Agriculture (M.S. in Agr.)
- Master of Science in Education (M.S. in Ed.)
- Master of Education (M.Ed.)
- Master of Science in Industrial and Labor Relations (M.S. in I.L.R.)
- Master of Chemical Engineering (M.Chem.E.)
- Master of Metallurgical Engineering (M.Met.E.)
- Master of Electrical Engineering (M.E.E.)
- Master of Civil Engineering (M.C.E.)
- Doctor of Education (Ed.D.)
- Doctor of Philosophy (Ph.D.)

In the main, not more than one Summer Session, consisting of a full program of courses at graduate level, taken before a student has been admitted to candidacy for an advanced degree, may be transferred to the Graduate School in fulfillment of degree requirements.

After admission to the Graduate School a candidate may, on recommendation of his graduate committee, complete one year of the residence requirements for the degree by Summer Session study, including the one Summer Session allowed before admission to candidacy. Five Summer Sessions equal one year or two semesters: three Summer Sessions equal the first semester and two Summer Sessions equal the second semester. A candidate who is in residence only during Summer Sessions is expected to continue his studies during the year under the direction of the chairman of his committee.

ADMISSION...Students intending to become candidates for an advanced degree at Cornell should write to the Dean of the Graduate School, 125 Administration Building, for application blanks and for the *Announcement of the Graduate School*, which gives all regulations governing advanced degrees, including regulations governing admission. Applications received before May 1 will be acted upon in time for the accepted candidate to register in the Graduate School on registration day, July 2. Those who apply after May 1 probably will not be admitted to the Graduate School for the ensuing summer but may take graduate courses in the Summer Session; this work may be transferred to candidacy later, providing it does not exceed the one Summer Session stipulated above and is approved by the candidate's special committee.

REGISTRATION DEPOSIT...On admission to the Graduate School, the applicant is required to pay the sum of \$30 within twenty days of notification of admission. Eighteen dollars will be used to pay the matriculation fee; the other twelve dollars will be held on deposit in the Treasurer's office until official withdrawal or the granting of the degree, as a guaranty against outstanding bills.

REGISTRATION...Matriculated students must register in both the Summer Session and the Graduate School. Full information and proper forms for registering in the Graduate School are to be obtained at the Graduate School table in Barton Hall on registration day. The registration must be completed within one week of registration day. To register, each candidate must file a Statement of Courses blank, properly approved by his committee chairman. Each *new* candidate must file a Nomination of Committee blank.

Note: Such registration is regarded in the same fashion as registration for a regular semester and affects the deadlines for fulfillment of requirements. For instance, a new candidate must complete his first language requirement within thirty days of Summer Session registration day.

COMPLETION OF REQUIREMENTS...Candidates for advanced degrees who expect to complete requirements and to take their final examinations at the end of the Summer Session should call at the office of the Graduate School not later than the third week of the Session for the necessary instructions and blanks.

CANDIDATES IN THE SCHOOL OF EDUCATION...Students interested in the degrees of Master of Science in Education (M.S. in Ed.) and Master of Education (M.Ed.) should consult the *Announcement of the School of Education*, which will be sent upon request to Official Publication, Administration Building, Cornell University. The Faculty

of the School of Education, functioning as a division of the Faculty of the Graduate School, has special jurisdiction over those two degrees.

SPECIAL REGULATIONS

CONDUCT AND SCHOLARSHIP. . . The Summer Session is administered under the general regulations governing conduct and scholarship which apply to all sessions of the University. Students are expected to familiarize themselves with dormitory and other rules and to abide by them. A statement of the University rule governing student conduct follows:

"A student is expected to show both within and without the University unfailing respect for order, morality, personal honor, and the rights of others. The authority to administer this rule and to impose penalties for its violation is vested in the University Committee on Student Conduct. The rule is construed as applicable at all times, in all places, to all students of the University."

AUTOMOBILE REGULATIONS. . . Because of local traffic and parking conditions it is necessary to require registration of both motor vehicles and their drivers during the Summer Session as well as during the academic year. Each student who maintains or operates a motor-driven vehicle in or about Ithaca during the Summer Session must do the following: (1) register with the Safety Division Office, Administration Building, at the time of Summer Session registration, by paying a fee of \$1 and displaying, as directed, a registration sticker; (2) if under twenty-one years of age, have written consent of his parent or guardian; (3) produce evidence that he may drive in New York State and that the vehicle may be driven there; (4) produce evidence that the vehicle is insured at the standard minima of \$5,000-\$10,000-\$1,000. Motorcycles may be registered but may not be used on the campus during class hours. Trailers as family living units are not allowed on any University property. Campus parking during class hours may be restricted to certain areas.

LIBRARIES

The University libraries comprise the general library of the University and the libraries of the following colleges and schools: The Library of the College of Agriculture, the Library of the Agricultural Experiment Station at Geneva, the Architecture Library, the Business and Public Administration Library, the Engineering Library, the Library of the College of Home Economics, the Library of the School of Industrial and Labor Relations, the Law Library, and the Veterinary Library.

In addition there are the following special departmental libraries

and laboratory collections: Agricultural Economics, Agronomy, Animal Husbandry, Barnes Hall, Botany, Browsing, Chemical Engineering, Chemistry, Conservation, Dairy Industry, Entomology, Floriculture, Geology, Goldwin Smith, Hotel, Mathematics, Military, Music, Nutrition, Physics, Plant Breeding, Plant Pathology, Poultry, Regional History, and Zoology.

The usual hours of opening for the libraries during the Summer Session are 7:50 A.M. to 10 P.M. on all weekdays except Saturday, when the libraries close at 5 P.M. Certain exceptions, especially in the departmental libraries and laboratory collections, may prevail.

The general collection of reference books and documents, the chief bibliographical publications, and the principal series of academy and learned society publications are located in the University Library. Specialized reference materials will be found in the various college and departmental libraries. The Reference Department of the University Library and the librarians of the college, school, and departmental libraries are prepared to assist students in the effective use of the libraries and in the location of research materials.

The total library resources on the Ithaca campus exceed 1,400,000 volumes. The number of periodicals, transactions, and other serials currently received is over 5,000.

In the course of their development the libraries have received and have built up special collections, some of the most significant being: Architecture, American History, Slavery, Reformation, English and French Revolutions, American Civil War, History of Superstition, Spinoza, Dante, Petrarch, Rhaeto-Romanic, Egyptology and Assyriology, China, Dramatic Literature, Freemasonry, Legal Trials, Entomology, Botany, Zoology, History of Science, Icelandic, and Regional History.

Cards of admission to the stacks and to the White Historical Library are issued to graduate students for the purpose of consultation and research. A limited number of stalls and study spaces are available to graduate students upon application. The privilege of borrowing books for home use is granted to all students who comply with the library regulations.

HEALTH SERVICE

The Student Medical Clinic at 5 Central Avenue will be available for all students registered in the regular six-week Summer Session.

Clinic Hours

Monday through Friday	9-12 A.M.	2-4:30 P.M.
Saturday	9-12 A.M.	
Sunday	10-11 A.M.	

A nurse will be in attendance from 12 noon until 2 P.M. Monday through Friday. Those desiring to consult a physician after 5 P.M. weekdays, on Saturday afternoons, or on Sundays for an illness or accident of emergency nature may go directly to the institution providing hospital services. The night service is not intended for the use of those who could visit the Clinic during the day.

Emergency room call service will be available at these charges: \$3 for night visits and \$2 for day visits. Requests for room visits will be cleared through the Student Medical Clinic, Ithaca 4-3211, Extension 4518, during the day, and through the Infirmary switchboard, Ithaca 2747, after 5 P.M. on weekdays, Saturday afternoons, and Sundays. Patients requiring more than one emergency visit for any one illness will not be treated in their rooms but will be requested to go to the institution providing hospital services.

Hospital care will be provided for students either at the Cornell Infirmary or the Tompkins County Memorial Hospital. The specific place will be made known to students on the opening day of the Summer Session. Two days' bed, nursing, and ordinary medical care will be granted without extra charge. Emergency surgical care will also be provided. Emergency surgical care is defined as surgical procedures which, in the opinion of the Medical Director, are necessary for the immediate welfare of the patient. Rates in a hospital for registered students beyond the two-day exemption period will be \$7.50 a day.

If a student, while in the hospital, wishes to avail himself of a private physician from the visiting staff, he is at liberty to do so. A student may also receive medical care from private physicians in the city of Ithaca rather than consult the Clinic. In either case, the cost of this service is not included in the health fee.

LIVING ACCOMMODATIONS

Rooms are available to both graduate and undergraduate men and women in University-operated housing units, as well as off campus. A leaflet giving detailed information on both types of housing, "*Residential Halls for Men and Women*," may be secured by writing to the Department of Residential Halls, Administration Building, Cornell University, Ithaca, New York.

UNDERGRADUATE WOMEN... All undergraduate women registered in the 1951 Summer Session are required to live in Residential Halls for Women and to take their meals there. Unit V of Clara Dickson will be in use for undergraduate housing, and there will be a uniform charge of \$144.00 for board, room, and an allowance of personal laundry for the six-week period.

GRADUATE WOMEN. . . Graduate women under twenty-one are required to live in Residential Halls for Women. Graduate women over twenty-one may make application for rooms in Residential Halls or may live in off-campus houses.

Risley Hall will be reserved for graduate women's housing. The rates will range from \$42.00 to \$54.00 for the six-week session, depending upon the desirability and location of the room, and will include room and an allowance of personal laundry only.

Unit VI of Clara Dickson Hall will be available for graduate women who are interested in arranging for board. A uniform rate of \$135.00 for six weeks will include room, twenty-one meals a week, and an allowance of personal laundry.

GRADUATE AND UNDERGRADUATE MEN. . . Single and double rooms in the Baker group of Residential Halls will be available to both groups of men. Such assignments are made in order of date of application. The rates range from \$25.50 to \$36.00 for the six-week session, depending upon the desirability and location of the accommodation, and will include room only.

SOCIAL REGULATIONS FOR WOMEN. . . A Head Resident, appointed by the Office of the Dean of Women, is located in a first-floor apartment of each unit of Clara Dickson Hall and of *Risley Hall*. Each Head Resident is responsible for the conduct and social life of the hall which she supervises and is glad to advise with students in cases of illness and emergency, or to give them whatever information they wish concerning the University and town.

Both the undergraduate and graduate dormitories open at 7:00 A.M. daily. The undergraduate dormitory closes at 11:30 P.M. Sunday through Thursday, and at 12:30 A.M. Friday and Saturday; graduate dormitories close at 12 midnight Sunday through Thursday, and at 1:00 A.M. Friday and Saturday.

SOCIAL REGULATIONS FOR MEN. . . Insofar as practical, all men students are left to the regulation of their own affairs, subject to the University's general rules with regard to student conduct and within the jurisdiction of the Faculty Committee on Student Conduct. There are no prescribed closing hours for men's dormitories.

Student counselors are in residence in all men's housing units to advise students in cases of illness or emergency, or to give them whatever information they wish concerning the University or town.

OPENING-CLOSING DATES OF DORMITORIES. . . All Residential Halls will be open for occupancy Sunday, July 1, at 8 A.M.; they will close at 2 P.M., Sunday, August 12. *Earlier or later occupancy will not be possible under any circumstances.*

APPLICATION FOR ROOMS. . . Applications for rooms in Residential Halls cannot be given consideration unless they are submitted on official application forms to the office of Residential Halls. Room application forms are distributed *only* by the office of the Summer Session *after* admission has been approved, and each student will automatically receive one with his certificate of admission to the Summer Session.

DEPOSITS WITH APPLICATIONS. . . A \$5.00 room deposit check or money order, drawn to the order of Cornell University, must accompany each application for a room in any of the Residential Halls if the application is to receive consideration. This deposit is not applied on the residence charge. If the student occupies an assigned room for even a limited amount of time, the deposit is held until after the end of the Session to cover the return of keys, any damage to building or furniture other than that occasioned by normal use, and to ensure completion of the lease.

REFUNDS OF DEPOSITS AFTER WITHDRAWAL OF ROOM APPLICATIONS. . . The \$5.00 room deposit will be refunded if the applicant files with the Manager of Residential Halls written intention to withdraw the application for assignment by June 15, or within two weeks of applications dated June 2 or later. No \$5.00 room deposit will be refunded on cancellations received on or after the day of registration.

OFF-CAMPUS HOUSING. . . The Off-Campus Housing Office in the Administration Building is maintained by the Department of Residential Halls. This office is a bureau of information only, maintaining files of voluntarily listed accommodations for the use of students who call at the office. Such lists cannot be mailed to prospective students.

Students wishing to sublet houses or apartments off campus are advised to arrive in Ithaca in advance of registration in order to secure such quarters. Rentals of sublet houses and apartments for the Summer Session range from \$50.00 to \$100.00 per month.

There is normally an adequate supply of rooms available in off-campus locations for the Summer Session. These rooms vary considerably in comfort, convenience, and safety. Before leasing a room, careful consideration should be given such details as distance from campus, nearness to eating places, price, ventilation, sanitation, furnishings, and fire escapes. Arrival in Ithaca a few days in advance of registration day will assure students of a better selection of off-campus rooms. It is expected that in 1951 rentals will range from \$5.00 to \$10.00 weekly.

DINING ROOMS AND CAFETERIAS. . . The dining facilities of Willard Straight Hall and the cafeteria in Martha Van Rensselaer Hall are open to both men and women students. Board may be obtained at

these places, or at cafeterias, dining rooms, and restaurants near the campus, at approximately \$1.75 to \$2.25 a day.

COST OF LIVING... An estimate of the cost of living in Ithaca in the summer can be made by consulting the figures given in the preceding paragraphs. In private houses rentals vary according to the location. Rooms are rented with the understanding that they will be occupied for the entire Session unless both parties agree otherwise.

COUNSELING SERVICES

The office of the Dean of Men and Dean of Women is on the first floor of the Administration Building. This office maintains the following services.

PART-TIME EMPLOYMENT OFFICE... Student employment opportunities during the Summer Session are limited, due to the shortness of the Session and the fact that offices and other services can run with smaller staffs. This office lists any part-time jobs which are available, and those students interested in working should register their needs. The office will refer qualified students to prospective employers.

INDIVIDUAL COUNSELING... There is a trained guidance and counseling staff for all students who feel a need for social, personal, educational, or vocational counseling.

TESTING... In cooperation with the University Testing Service, appropriate tests will be administered if, in the counseling process, need for aptitude or interest testing is indicated.

VOCATIONAL INFORMATION... A vocational information library is maintained.

COUNSELING FOR FOREIGN STUDENTS... The University has on its staff a Counselor to Foreign Students whose duty it is to look after the welfare of all students from other countries. It is suggested that all foreign students write to him before coming to Ithaca, or call upon him soon after arrival. He will help them find suitable living quarters and assist them with introductions. Letters should be addressed to: Counselor to Foreign Students, Administration Building, Cornell University, Ithaca, New York.

PROGRAM OF EXTRACURRICULAR ACTIVITIES

The Summer Session, in cooperation with departments and agencies of the University, arranges a balanced extracurricular program of public events and recreation designed to enrich the campus experience

of its students, especially those who are not at the University during the winter.

THE WEEKLY CALENDAR AND ANNOUNCEMENTS. . . . A weekly calendar and announcement, issued and posted on each Saturday of the Summer Session, contains not only all official notices but details of public events and also interesting news about special activities on the campus. Copies may be obtained without charge at the desk in Willard Straight Hall, at the Summer Session office, and at other University offices. Students are advised to secure copies regularly.

LECTURES. . . . Public lectures, open to all Summer Session students, are given on selected Wednesday evenings of the Session. Both non-resident lectures and members of the Faculty take part in the series, and the subjects are chosen for their general interest and timeliness. In 1950 the lecturers and their topics were:

Dr. Ordway Tead, Chairman, Board of Higher Education, New York City, "Human Values through Higher Education."

Dr. Hans Simons, President, New School for Social Research, "Germany's Return to Power."

Dr. Knight Biggerstaff, Professor of Chinese History, Cornell University, "Communist China."

Dr. Thurlon C. Nelson, Professor of Zoology, Rutgers University, "A Biologist Looks at Water Conservation" (Illustrated).

Dr. Urie Bronfenbrenner, Professor of Psychology and of Child Development and Family Relationships, Cornell University, "The Human Personality: Creative and Destructive."

Afternoon series. In the late afternoon and on Monday evenings at times to be announced, lectures, primarily by nonresident lecturers but occasionally by members of the University Faculty, are open to all Summer Session students. These lectures, though usually nontechnical, are designed to treat more restricted subjects than are those of the evening series.

READING HOURS. . . . On Sunday evenings, in the Browsing Library at Willard Straight Hall, members of the Faculty read aloud passages of literature of their own selection.

SAGE CHAPEL. . . . Religious services are conducted in Sage Chapel throughout the academic year by clergymen of various religious denominations. There will be services in the Chapel on five Sundays during the Summer Session, July 8 to August 5, inclusive.

CONCERTS. . . . A series of Thursday evening concerts is given in the Memorial Room of Willard Straight Hall, open without charge to students in the Summer Session.

RECORDED MUSIC... On Sunday afternoons recorded music is broadcast on the Library Slope. If the weather is inclement it is broadcast in the Memorial Room, Willard Straight Hall. Recitals of recorded music are arranged for each Wednesday and Saturday evening in the Music Room, Willard Straight Hall.

RECREATIONAL, FOLK, AND SQUARE DANCING... For students and Faculty members on Monday evenings. An instructor is present.

SUMMER THEATRE... Performances are given by the Summer Players on Friday and Saturday evenings in the University Theatre, Willard Straight Hall. Admission is charged. In 1950 the series included: "The Play's the Thing," by Ferenc Molnar; "Home and Beauty," by Somerset Maugham; three original plays by Cornell authors; and "Angel Street," by Patrick Hamilton.

The Summer Session productions of the Theatre are under the general direction of Professors Stainton, Drummond, and Albright, assisted by other members of the direction staff. Regularly enrolled members of the classes in Speech and Drama may compete for places in the casts and production staffs. Detailed announcements will be made in the various classes.

FILMS... Noteworthy European and American films are presented weekly by the University Theatre during the Summer Session. Admission is charged. In 1950 the following films were shown: "Spring in Park Lane," "Paizan," "Pygmalion," "Passport to Pimlico," "The Quiet One," "Hamlet," and "Louisiana Story."

WILLARD STRAIGHT HALL... The student union of Cornell University contains lounges for men and women, rooms for student meetings, for games, and for dancing, the University Theatre where motion pictures and dramatic productions are given each week, a billiards and games room, a barber shop for men, a browsing library well stocked with books of general interest, and a music and art room. On the upper floors of the Hall are sleeping rooms used principally by parents and guests of students, by alumni, and by guests of the University.

The Board of Managers of Willard Straight Hall not only cooperates in some of the events listed above, but also arranges for dances, open houses, teas, games, art exhibits, and other recreation and entertainment.

Willard Straight Hall is for the use of members of the University; but guests of members may secure guest cards for limited periods upon application to the Director of the Hall.

SPORTS... Tennis courts, conveniently located about the campus are available for the use of Summer Session students, and a nine-hole golf

course is operated by the University. A gorge at one end of Beebe Lake on the campus forms a natural swimming pool, where two guards are on duty every day of the Session from 1 to 6 P.M.

Private lessons in tennis, golf, and swimming are offered by members of the Department of Physical Education.

Tennis. Hours to be arranged upon registration at Barton Hall on July 2. Eight lessons and two lectures. Fee, \$12.

Golf. Hours to be arranged. Call Mr. Hall at the University Golf Course, Ext. 4411.

Swimming. Hours to be arranged. See Mr. Staley at Beebe Lake or call Ithaca 41194.

For more detailed information, address Mr. R. J. Kane, Director of Athletics, Schoellkopf Building.

An extracurricular course in equitation is also offered. Address inquiries about fees and hours to the Director of the Equitation Course—Summer Session, Barton Hall.

The Curriculum

COURSES OF INSTRUCTION . . . The listing is alphabetically by departmental subheadings under general fields of instruction. For offerings in particular subjects, consult the Index. Because of demands which may be placed upon the instructing staff, it may be necessary to substitute instructors for the ones named in the course descriptions. The Director reserves the right to cancel any course for which, through unforeseen circumstances, satisfactory instruction or facilities cannot be provided.

UNIT COURSES . . . Unit courses, less than six weeks in length, are indicated by a *u* following the course number, and their dates are given in the descriptions.

COURSES WITH FEES ATTACHED . . . Courses requiring laboratory or other fees are marked by asterisks.*

CLASS SCHEDULES . . . In most courses of instruction, classes will meet five times a week, on each weekday except Saturday. All classes scheduled for Wednesday will meet at the same hour on Saturday, July 7, to make up for loss of class meetings in the first week; in case of conflict with a scheduled Saturday class, notify the office of the Summer Session. Class periods begin on the hour, unless otherwise indicated, and are fifty minutes in length. Laboratory periods are of various lengths, as indicated in the descriptions of courses which include laboratory work.

ROOM SCHEDULES . . . The meeting places of courses will be given in a supplementary announcement which will be distributed to students on registration day.

SCHEDULE OF EXAMINATIONS . . . With a few exceptions, examinations will be held on Friday, August 10, and Saturday, August 11, at the hours indicated by the schedule below; in the exceptional cases, the examination will be held on Thursday, August 9, at 2. The usual classrooms will be used unless a change is announced by the instructor.

In courses which meet for more than one hour daily, the examination period is determined by the first hour at which they meet. For example, Economics 101 meets daily at 10 and at 11; the examination will be held on Friday at 10:30. In courses which include both lecture and laboratory periods, the examination period is determined by the lecture

hour. In courses in which no examination is to be given, an announcement to that effect will be made by the instructor; in such cases the last meeting of each course will be held in the examination period for that course.

Examinations will be held as follows:

- 8 o'clock classes, Friday at 8.
- 9 o'clock classes, Saturday at 8.
- 10 o'clock classes, Friday at 10:30.
- 11 o'clock classes, Saturday at 10:30.
- 12 o'clock classes, Friday at 2.
- Afternoon classes, Saturday at 2.

AGRICULTURE

AGRICULTURAL ECONOMICS

*Ag.Ec. 4. *RURAL ECONOMICS*. (U,G) 3 hours credit. Lectures M T W Th F 10. Field trips or discussion periods W 2-5. Professor BRATTON.

This course is designed to give persons who have not had formal training in agricultural economics, but who plan to work in rural areas, a general knowledge of the economic aspects of farming and rural life. Emphasis will be placed on farming as a business, types of farms, economic differences in land, factors affecting farming returns, and the marketing of farm products. Attention will also be given to the function of agricultural cooperatives, economic and social agencies serving rural communities, and the development of public policies relating to agriculture and rural areas. Field trips will be taken to nearby rural areas during some of the afternoon periods. Approximate cost for transportation, \$5. Fee for materials, \$2.

*Ag.Ec. 151. *PUBLIC PROBLEMS OF AGRICULTURE*. (U,G) 3 hours credit. Limited to upperclassmen and graduate students. Lectures M T W Th F 11-12:30. Professor HEDLUND.

Characteristics of agriculture as an industry that give rise to problems of public concern. The process of policy formation in a democracy. Discussion of specific problems, such as price support programs, conservation, and agricultural credit. Fee for materials, \$2.

AGRICULTURAL ENGINEERING

*Ag.En. 42. *WELDING*. (U,G) 1 hour credit. Two laboratory periods: Sec. 1, M W 9-12; Sec. 2, M W 1-4. Limited to sixteen a section. Mr. CLOUGH.

A course giving fundamentals and practice of oxyacetylene welding and cutting of metals; spot welding and arc welding with special emphasis on farm shop construction and repair. Laboratory fee, \$5.

*Ag.En. 43. *ADVANCED FARM SHOP*. (U,G) 1 or 2 hours credit. Two three-hour laboratory periods to be arranged for each hour of credit. Permission of instructor required. Mr. CLOUGH and Professor FOSS.

Construction and repair jobs are used to teach the operation, care, and adjustments of power shop tools. Work is divided between machine tools and advanced welding (1 hour), and power tools used in woodworking and sheet metal (1 hour). Laboratory fee, \$5.

*Ag.En. 141. *TEACHING FARM MECHANICS*. (U,G) 3 hours credit. Lectures, M T W Th F 10. Laboratory: Sec. 1, M F 1-4; Sec. 2, T Th 1-4. Limited to sixteen a section. Professor Foss.

A course designed to prepare the teacher to lay out, equip, and manage the general shop. Methods of teaching jobs in Farm Shop, Soil and Water, Machinery and Power, Structures, and Rural Electrification are included. A field trip to near-by high school agricultural shops is taken. Laboratory fee, \$5.

Ag.En. 251. *SPECIAL PROBLEMS IN AGRICULTURAL ENGINEERING*. (G) Credit one or more hours. Prerequisite, adequate ability and training for the work proposed, and permission to register. Professor FRENCH and staff.

Special work in any branch of agricultural engineering on problems under investigation by the Department or of special interest to the student, provided, in the latter case, that adequate facilities can be obtained.

AGRONOMY

*Agron. 105S. *SOIL AND CROP MANAGEMENT*. (U,G) 3 hours credit. Prerequisite, Agronomy 1 and 2 or equivalent and consent of instructor. Lectures M T W Th F 9. Laboratory, F 1:30-4:00. Associate Professor S. R. ALDRICH.

Basic principles of soil management and field crop production, and their application to the solution of practical farm problems. Rotations, maintenance of soil productivity, and conservation of crops will be stressed. Field trips will be scheduled. Designed to meet the needs of county agricultural agents, vocational agricultural teachers, and others with similar interests. Laboratory fee, \$3. Cost of transportation on field trips will be assessed (probably about \$5).

ANIMAL HUSBANDRY

An.Hus. 151. *RECENT ADVANCES IN LIVESTOCK PRODUCTION*. (U,G) 2 hours credit. Lectures M T W Th F 8. Professor TRIMBERGER.

A presentation and discussion of recent developments in the nutrition, breeding, and management of livestock, with special emphasis on dairy cattle.

BIOLOGICAL SCIENCES

BIOCHEMISTRY

Bioch. 101. *GENERAL BIOCHEMISTRY*. (U,G) 4 hours credit. Prerequisite, Quantitative Analysis and Organic Chemistry. Lectures M T W Th F 8-10, Professor WILLIAMS.

*Bioch. 102. *GENERAL BIOCHEMISTRY*. (U,G) 2 hours credit. Prerequisite or parallel, Course 101. Laboratory, M T W Th F 10-12:30. Professor WILLIAMS and assistant.

Laboratory practice with plant and animal materials and the experimental study of their properties. Laboratory fee, \$15.

BIOLOGY AND ENTOMOLOGY

*Biol. 5. *LABORATORY METHODS IN BIOLOGY*. (U,G) 3 hours credit. Prerequisite, an introductory course in zoology or biology. Lectures and laboratory, M T W Th F 8-10:30, or by arrangement in the event of conflicts. Assistant Professor UHLER.

For students who intend to follow some phase of biology as a profession, or for teachers of biology who wish to prepare their own laboratory materials. Subjects

included: collection, preservation, and storage of materials; preparation and staining of smears, whole mounts, and sectioned materials; preparation of bird and mammal skins for study; clearing and staining small vertebrates *in toto*; and the injection of blood vessels and embalming of specimens. Text: Miller and Blayde's *Methods and Materials for Teaching Biological Science*. Laboratory fee, \$7.50.

*Entom. 16. *INSECT ECOLOGY*. (U,G) 3 hours credit. Prerequisite, an introductory course in zoology or biology. Lectures, T Th 9. Laboratory, T Th 10-12:30 and 2-5. Professor PALM.

A study of insects in relation to their environments. Lectures deal with the general principles of insect ecology; in field and laboratory work ecological groups in the vicinity of Ithaca are considered. An opportunity will be provided for life history work and for photography of insects in natural color. General procedure consists of field trips in the morning period and laboratory study of the collections during the afternoon period. Laboratory fee, \$4.50.

*Entom. 300. *SPECIAL PROBLEMS IN INSECT ECOLOGY*. (U,G) Credit and hours to be arranged. Professor PALM.

This course may be elected by qualified persons with the permission of the instructor under whom the work is done. Laboratory fee: variable according to the nature of the problem.

*Biol. 310. *SPECIAL PROBLEMS IN BIOLOGY*. (U,G) Credit and hours to be arranged. Assistant Professor UHLER.

This course may be elected by qualified persons with the permission of the instructor under whom the work is done. Laboratory fee: variable according to the nature of the problem.

BOTANY

*Bot. 1A. *GENERAL BOTANY—ANATOMY AND PHYSIOLOGY*. (U) 3 hours credit. Equivalent to Botany 1, first term. Lectures, M T W Th F 10; laboratory and conferences, M T W Th F 11-12:30. Professor PETRY and assistant.

The structures and life processes of the higher plants are examined in detail, with considerable attention to information necessary for more advanced or practical work with plants. Laboratory fee, \$3.50.

*Bot. 31. *PLANT PHYSIOLOGY*. (U,G) 4 hours credit. Prerequisite, General Botany or Biology and Elementary Chemistry. Lectures, M T W Th F 9; laboratory 10-12. Professor CLARK.

This course is designed to acquaint the student with the important life processes of plants. Topics such as water relations, photosynthesis, translocation, digestion, respiration, mineral nutrition, and growth relations are studied in some detail, and particular emphasis is placed, both in laboratory and in classrooms, on discussion of the principles and their applications to living plants. Laboratory fee, \$5.

*Bot. 123. *PLANT ANATOMY*. (U,G) 4 hours credit. With permission of the instructor the lectures may be taken separately for 2 hours credit. Prerequisite, a course in General Botany. Lectures, M T W Th F 2-3. Laboratory, M T W Th F 3-5. Associate Professor BANKS.

A detailed study of the internal structure of vascular plants with emphasis on determination and interpretation. Laboratory fee, \$5.

CONSERVATION

Consv. 1. *CONSERVATION OF WILDLIFE*. (U,G) 2 hours credit. Lectures, M T W Th F 8. Assistant Professor HEWITT.

An introduction to the wildlife resources of North America; the importance of the

flora and fauna in our economic and cultural life; the history of wildlife decimation, the present need for conservation, and the methods employed to re-establish the various species.

Consv. 3. *CONSERVATION OF NATURAL RESOURCES*. (U,G) 2 hours credit. Lectures, M T W Th F 11. Assistant Professor HEWITT.

The natural-resource problems of the United States; natural resources in national welfare; the conservation movement; public land policies; natural resources of major importance; use and exploitation; present inventories; problems of the immediate and long-range future; essential points in a national conservation program.

Consv. 7. *INTRODUCTION TO THE BIRD LIFE OF AMERICA*. (U) 2 hours credit. Lectures, M 7:30 P.M., W F 4:30 P.M. Field trips, S 2 P.M. or W 5:30 A.M. and one trip by appointment. Professor A. A. ALLEN and Dr. E. G. ALLEN.

A course designed for those interested in increasing their knowledge of birds but not planning advanced work in ornithology. Students majoring in biological sciences or conservation should register for Course 9.

By the use of color films, slides, photograph records, and specimens, students will get acquainted with the local bird life and the more common birds of other parts of the United States and Canada. Field trips will be conducted to the best local areas for observing birds.

*Consv. 8. *ELEMENTARY TAXONOMY AND NATURAL HISTORY OF THE VERTEBRATES*. (U,G) 4 hours credit. Prerequisite, general zoology or biology. Lectures, M T W Th 1:40-2:30. Laboratory and field work, M T W Th 2:30-5:30. Associate Professor RANEY.

Lectures on fish, amphibians, reptiles, and mammals; their habits, life histories, coloration, respiration, locomotion, reproduction, and adaptations, together with their classification, nomenclature, characters, and relationships. Laboratory study of the parts employed in the classification of these groups with special training on the identification of the vertebrates of eastern United States. Field work is partly to give practice in field observations and in ready identification of local vertebrates in their natural environment and partly to introduce some ecological methods. Laboratory fee, \$4.50.

*Consv. 9. *GENERAL ORNITHOLOGY*. (U,G) 3 hours credit. Lectures, M W F 9. Laboratory M W 1:40-4:30 or M W F 10-12. Field trips, T Th 5:30-8:00 A.M. Professor A. A. ALLEN and Dr. E. G. ALLEN.

An introduction to the study of birds and familiarity with the local species. The lectures cover classification, migration, coloration, song, nest building, eggs, care of young, methods of attracting birds, and their economic importance. The laboratory work with bird skins, nests, and eggs gives an intimate knowledge of the birds of eastern North America, their life histories and distribution, and familiarity with the use of manuals. The aim of the field work is the identification of birds by their songs and habits as well as by their plumage. Laboratory fee, \$3.

*Consv. 22. *ICHTHYOLOGY*. (U,G) 2 hours credit. Prerequisite, Course 8 or permission of instructor. Lectures, F 9 and 1:40-2:30. Laboratory, F 10-12 A.M. and 2:30-5:30 P.M. Associate Professor RANEY.

Evolution, relationships, structure, habits, ecology, and literature of fishes. Laboratory studies on structure and identification of North American fishes. Field studies on ecology and life histories include one all-day field trip. Laboratory fee, \$4.50.

*Consv. 126. *ADVANCED ORNITHOLOGY*. (U,G) 3 hours credit. Prerequisite, Course 9 or its equivalent; with special permission may be taken with Course 9. Lectures, T Th 9. Laboratory, T Th 1:40-4:30, and one other period by appoint-

ment. Professor A. A. ALLEN. Students desiring this course should write Professor Allen for reservations.

The structure and classification of the birds of the world; geographical distribution; the preparation of bird skins and bird photography. Laboratory fee, \$3.

Consv. 128. *HISTORY AND LITERATURE OF ORNITHOLOGY*. (U,G) 1 hour credit. Lectures T Th 10. Dr. E. G. ALLEN.

An introduction to the evolution of ornithology in zoological science; the leading writers and bird artists from Aristotle to the present, together with the main sources and aids for the preparation of bibliographies.

Consv. 173. *FISHERY BIOLOGY*. (U,G) 2 hours credit. Prerequisite, general biology or general zoology. Lectures, M T W Th 11. Associate Professor WEBSTER.

The life histories and ecological requirements of some fresh-water game fishes; and the principles and techniques of fishery management.

*Consv. 175. *FISHERY BIOLOGY LABORATORY*. (U,G) 2 hours credit. Prerequisite, general biology or general zoology. Laboratory, M T W Th 1:40-4:30. Associate Professor WEBSTER.

Field and biometrical exercises in fishery management. Emphasis will be placed on age and growth studies and population statistics, the data being collected during class field work. Laboratory fee, \$4.

Consv. 400-405. *RESEARCH PROBLEMS*. (U,G) Credit and hours to be arranged. Prerequisite, adequate preparation and permission of instructor.

400. *FISHERY BIOLOGY*. Associate Professor WEBSTER.

401. *HERPETOLOGY*. Associate Professor RANEY.

402. *ICHTHYOLOGY*. Associate Professor RANEY.

404. *ORNITHOLOGY*. Professor ALLEN.

405. *WILDLIFE MANAGEMENT*. Assistant Professor HEWITT.

FLORICULTURE AND ORNAMENTAL HORTICULTURE

Courses in this department are offered for three groups of people. Courses 12 and 13 are of interest to amateurs. Courses 33 and 119 are offered for practicing nurserymen, park and estate superintendents, landscape engineers, and architects. Courses 12, 13, 33, and 119 are given for advanced students in horticulture and landscape gardening.

*Flor. 12. *HERBACEOUS PLANT MATERIALS*. (U,G) 3 hours credit. Lectures, M T W Th 8; laboratory, T F 2-5. Assistant Professor LEE.

A study of the ornamental herbaceous plants used in landscape and garden plantings. Emphasis is placed on the identification, uses, and culture of annuals and summer flowering perennials. All members of the class will participate in an all-day excursion to visit private estates in Rochester. Transportation fee, \$5; laboratory fee, \$2.

*Flor. 13. *WOODY PLANT MATERIALS FOR LANDSCAPE PLANTING*. (U,G) 4 hours credit. Lectures, M T W Th 9; laboratory and field work, M T W Th 10-12. Associate Professor CORNMAN.

A study of the characteristics and requirements of trees, shrubs, and vines for landscape planting. The laboratories and field trips enable the student to recognize common woody ornamental plants. All members of the class will participate in an all-day excursion to visit public parks in Rochester. Transportation fee, \$5; laboratory fee, \$3.

*Flor. 33. *PLANTING DESIGN*. (U,G) 3 hours credit. Lectures, T Th 1, F S 8; laboratory, Th 2-5, S 9-12. Associate Professor PORTER.

Knowledge of common plant materials is prerequisite. Some experience in drawing plans and sketches will be of value.

Course covers the theory and principles of design as they relate to all types of planting problems together with the practical considerations that affect the selection and use of plants. Laboratory fee, \$5.

*Flor. 119. *GARDEN PLANTING AND MAINTENANCE*. (U,G) 3 hours credit. Prerequisite, elementary courses in Botany, Plant Physiology, and Ornamental Horticulture. Lectures, M W F 1 and F 9; laboratory, M W 2-5. Associate Professor PRIDHAM.

The growing, transplanting, and maintenance of garden flowers, trees, and shrubs. Special consideration is given to the application of basic science to modern garden practice, soil and fertilizers, transplanting, watering, weed control, and pruning. Consideration is also given to special plant materials for specific locations and purposes. Trips will be made to private estate and park plantings. Transportation fee, \$3; laboratory fee, \$3.

GENETICS

*Genet. 101. *GENERAL GENETICS*. (U,G) 4 hours credit. Prerequisite, a course in botany, zoology, or biology. Lectures, daily except Saturday 10; laboratory, daily except Saturday 11-12:30. Associate Professor WALLACE.

A general study of the fundamental principles of genetics in plants and animals. Discussions of simple cases of inheritance, gene interaction, gene linkage, and the chromosome theory of heredity, inheritance of quantitative characters, inheritance of sex, effects of inbreeding and crossing, the origin of heritable variations and their relation to evolution, and gene action. Laboratory fee, \$3.

ZOOLOGY

Zool. 103, 104. *GENERAL ZOOLOGY*. (U) Courses are designed so that a student may take either or both.

*Zool. 103. *AN INTRODUCTION TO THE INVERTEBRATES*. (U) 3 hours credit. Recitations, M T W Th F 9; laboratory, M W and 1st, 3rd, and 5th F 1:40-4. Associate Professor LEONARD and assistant.

The course deals with the structure and function of representative animals lacking backbones; their classification, life cycles, habits; their relations to the welfare of man; certain biological principles. Laboratory fee, \$5.

*Zool. 104. *AN INTRODUCTION TO THE VERTEBRATES*. (U) 3 hours credit. Recitations, M T W Th F 11; laboratory, T Th and 2nd, 4th, and 6th F 1:40-4. Associate Professor LEONARD and assistant.

The course deals with the structure and function of the vertebrate organ systems; the principles of development, genetics, and evolution. Comparisons of frog and man will be stressed. Laboratory fee, \$5.

*Zool. 211-212. *COMPARATIVE ANATOMY OF THE VERTEBRATES*. (U,G) 6 hours credit. Prerequisite, Introductory Zoology or Biology. M T W Th F 8-1. This course is the equivalent of Zoology 211-212 as given in the regular year. Associate Professor GILBERT and assistant.

A thorough study and dissection of representative vertebrate types, including a fish, amphibian, reptile, bird, and mammal, together with demonstrations on species other than the types dissected.

The course is intended to give students an evolutionary background for the study and appreciation of the structure of higher vertebrates, including man. Laboratory fee, \$20.

EDUCATION

ADMINISTRATION AND CURRICULUM

Educ. 261. *FUNDAMENTALS OF EDUCATIONAL ORGANIZATION AND ADMINISTRATION*. (G) 2 hours credit. M T W Th F 8. Dr. GRAGG.

A consideration of the main problems in organizing and administering the school program, including the services provided when school and community cooperate in meeting educational needs.

Educ. 262. *THE SECONDARY SCHOOL PRINCIPALSHIP*. (G) 2 hours credit. M T W Th F 10. Associate Professor ELLIOTT.

A course in school administration dealing with the responsibilities of the secondary school principal within the school building. Special attention will be given to the problems of the small high school.

Educ. 264. *FINANCIAL POLICIES AND PRACTICES IN PUBLIC SCHOOLS*. (G) 2 hours credit. Prerequisite, 261 or the equivalent. M T W Th F 10. Dr. GRAGG.

Typical problems: how local school funds are levied, collected, and disbursed; cost accounting; budget making; bonding; sources of state funds and their distribution. The discussion is based upon actual problems; prospective members of the class are urged, therefore, to bring with them financial data regarding their schools.

Educ. 268. *WORKSHOP: THE DYNAMICS OF THE CENTRAL SCHOOL DISTRICT*. (G) 4 hours credit. M T W Th F 11-12:40. Professor BUTTERWORTH and others.

Twenty-five years of experience with this type of district in New York warrants an appraisal of factors responsible for its marked development and an analysis of needs that suggest further improvement in its educational program. Consultants from several other divisions of Education and from Rural Sociology and Agricultural Economics will participate. Each member of the workshop will participate not only with the group as a whole, but will have the opportunity to concentrate on a problem in his school that seems to be of particular importance.

The enrollment will be limited to district and county superintendents, local superintendents or principals (or vice-principals), and others who have responsibility for the smaller school systems. Reservations should be made with J. E. Butterworth, Stone Hall, Cornell University, as soon as possible.

Educ. 276. *PRINCIPLES OF CURRICULUM BUILDING*. (G) 2 hours credit. M T W Th F 8. Associate Professor ELLIOTT.

A consideration of the major problems, principles, and techniques in determining educational objectives and curriculum scope and content in elementary and secondary schools. Special attention will be given to recent developments in the curriculum.

ADULT AND HIGHER EDUCATION

Educ. 293. *ADULT EDUCATION*. (G) 2 or 3 hours credit. For administrators, supervisors, extension agents, teachers, social workers, and others interested in adult education. M T W Th F 11. Additional hours to be arranged. Professor LEAGANS, Associate Professor PATTERSON.

This course deals with the nature, scope, need, agencies, and major problems in adult education. Emphasis is placed on development and promotion of local programs, selection and use of teaching staff, selection of teaching procedures and

materials, and appraisal of programs. The third credit provides opportunity for special study.

Educ. 402. *THE ROLE OF THE COLLEGE TEACHER IN GENERAL EDUCATION*. (G) 2 hours credit. M T W Th F 10. Professor WINSOR.

A discussion of the objectives of general education and the implication of these outcomes for the college teacher.

AGRICULTURAL EDUCATION

Educ. 236. *THE ORGANIZATION AND ADMINISTRATION OF VOCATIONAL AGRICULTURE IN THE SECONDARY SCHOOLS*. (G) 2 hours credit. M T W Th F 11. Associate Professor HOSKINS.

Designed for persons who will be responsible for the development of vocational agriculture programs at the local, county, state, and national levels. A copy of the state plan for vocational education for his state should be available for use by the student.

Educ. 237. *COURSES OF STUDY IN VOCATIONAL AGRICULTURE*. (G,U by permission) 2 hours credit. M T W Th F 9. Associate Professor HOSKINS.

The organization and content of courses of study in vocational agriculture for the secondary school as related to other programs and courses in the school curriculum.

Educ. 238. *WORKSHOP: MATERIALS OF INSTRUCTION IN VOCATIONAL AGRICULTURE*. (G) 6 hours credit. Permission of the instructor is required. M T W Th F 8-4:30. Assistant Professor KUNSELA.

A workshop designed to provide opportunity for teachers to develop instructional materials for agricultural education in secondary schools. Services of specialists and laboratory facilities will be made available. Participating teachers will be expected to have completed preliminary work and will be expected to bring such instructional materials with them for further development and completion.

Educ. 239. *PREVOCATIONAL AGRICULTURE IN THE SECONDARY SCHOOL*. (G,U by permission) 2 hours credit. M T W Th F 8. Associate Professor SMITH.

Selection of course content; manner and materials of teaching appropriate for the junior high school level.

EDUCATIONAL PSYCHOLOGY

Educ. 111. *EDUCATIONAL PSYCHOLOGY*. (U) 2 hours credit. M T W Th F 9. Professor GLOCK.

Designed for prospective teachers. Consideration of essential facts and principles of psychology and their practical application to problems in education.

Educ. 211. *EDUCATIONAL PSYCHOLOGY*. (G) 2 hours credit. M T W Th F 11. Professor GLOCK.

For experienced teachers, supervisors, guidance workers, and administrators. The course is designed to help students with problems in the field of educational psychology. Individual students may center their interests in such fields as reading, arithmetic, spelling, discipline, personality, and adjustment.

Educ. 215. *PSYCHOLOGY OF ADOLESCENCE*. (U,G) 2 hours credit. M T W Th F 10. Associate Professor BAYNE.

A study of behavior during adolescence; tasks involved in developing maturity; effect of preceding stages of development on maturity and adolescence.

ELEMENTARY AND SECONDARY EDUCATION

Educ. 24. *SOCIAL STUDIES IN THE ELEMENTARY SCHOOL*. (G) 2 hours credit. M T W Th F 8. Miss KLEE.

This course will be conducted as a workshop in which group discussion is combined with curriculum planning. Attention will be given to the contributions which the social studies can make to general elementary education. Each member of the class will have the opportunity to organize learning experiences for the grade level in which he is most interested.

Educ. 243. *PROCEDURES AND TECHNIQUES IN SUPERVISION*. (G) 2 hours credit. M T W Th F 9. Professor MOORE.

Designed for superintendents, supervisors, and principals; inexperienced students admitted only by permission. A consideration of the nature and purpose of supervision; the improvement of the learning-teaching process; skill in observations; analysis of methods; relationships between general and specific objectives; selection, analysis, and organization of subject matter; measuring and testing results; assisting teachers in professional growth.

Educ. 313. *METHODS OF TEACHING READING*. (G) 2 hours credit. M T W Th F 12. Miss LA PRAY.

Designed for teachers, supervisors, and administrators in the elementary school. The basis for the improvement of reading instruction. Appraisal of teaching practices and instructional materials; group testing programs and individual diagnostic procedures; remedial and corrective reading techniques.

Educ. 314. *ARITHMETIC IN THE ELEMENTARY SCHOOL*. (G) 2 hours credit. M T W Th F 10. Miss LA PRAY.

A course concerned with recent developments in the field of arithmetic, beginning with a survey of the history of numbers and proceeding to an evaluation of newer trends in the methods now being used. Each student may concentrate on the problems in the area in which he is most interested.

DEMONSTRATION SCHOOL. No credit. M T W Th F 9-11:30. Conferences for observers Tuesday and Thursday, 2-3:30. Professor MOORE, Miss LA PRAY, Miss KNAPP, and others.

A demonstration school exemplifying modern informal methods in elementary schools will be maintained on the campus for observational purposes. Special opportunities for observation will be scheduled for classes in supervision and methods.

GUIDANCE AND PERSONNEL

Educ. 282. *EDUCATIONAL AND VOCATIONAL GUIDANCE*. (G) 2 hours credit. M T W Th F 9. Associate Professor NELSON.

Principles and practices of educational and vocational guidance. Historical and theoretical background of the guidance movement; educational, vocational, and community information needed; the study of the individual; group methods; counseling; placement and follow-up; the organization, administration, and appraisal of guidance programs.

Educ. 283. *COUNSELING METHODS*. (G) 4 hours credit. M T W Th F 9-11. Prerequisite, Course 282 or equivalent. Mr. LAFORTUNE.

Primarily for graduate students who wish to become certified as counselors. Techniques for counseling with individuals concerning various kinds of educational, vocational, and social adjustment problems.

Educ. 284. *GROUP TECHNIQUES IN GUIDANCE*. (G) 2 hours credit. M T W Th F 10. Associate Professor NELSON.

Methods and materials for presenting occupational and orientation information to students. Deals with classes in occupations, orientation groups, field trips, clubs, work-experience programs, and other media.

Educ. 288. *CASE STUDIES IN COUNSELING*. (G) 2 hours credit. M T W Th F 11. Prerequisites, 255, 282, and 283, or their equivalents. Mr. BURROUGHS.

An advanced course in the practice of counseling. Selected records of student counseling are presented so as to show the types of problems which students discuss with their counselors. Procedures of counselors in preparing for, conducting, and recording the outcomes of counseling interviews, including the referral of cases to community agencies, are presented, using actual cases for demonstration purposes.

HISTORY AND PHILOSOPHY

Educ. 244. *PHILOSOPHY OF EDUCATION*. (G) 2 hours credit. M T W Th F 11. Professor MOORE.

A critical consideration of educational philosophies which are generally recognized as significant influences upon education as an essential in American life.

Educ. 297. *HISTORY OF EDUCATION IN THE MODERN PERIOD*. (G) 2 hours credit. M T W Th F 9. Associate Professor STUTZ.

A survey of education from the beginning of the seventeenth century to the present, with emphasis on public education and on consideration of social and economic developments affecting education in Western Europe and the United States.

HOME ECONOMICS EDUCATION

Educ. 403. *SPECIAL PROBLEMS IN HOME ECONOMICS EDUCATION*. (G) Credit and hours to be arranged. The staff of the Department.

This course provides opportunity for students to do independent, advanced work, with permission of the instructor with whom the problem is to be done. Plan B Master's candidates who are working on studies may register for this course with approval of their chairmen.

Educ. 407. *THESIS AND RESEARCH IN HOME ECONOMICS EDUCATION*. (G) Credit and hours to be arranged. The staff of the Department. Candidates for Plan A Master's degrees, Ph.D. degrees, and Ed.D. degrees who are working on theses may register for this course with permission of their chairmen and the instructor.

*Educ. 433. *TEACHING HOME ECONOMICS AT THE SECONDARY SCHOOL LEVEL*. (G) 2 hours credit. M T W Th F 10. Assistant Professor MOSER.

Designed for graduate students who have had experience in teaching home economics at the secondary school level. Consideration will be given to program planning, teaching procedures, materials, and other pertinent problems students find important for homemaking teachers at the secondary school level. Opportunity will be provided for work on individual problems. Fee \$3.

*Educ. 485. *SUPERVISION OF THE RESIDENT EXPERIENCE IN HOMEMAKING*. (G) 2 hours credit. Registration by permission of the instructor. M T W Th F 10. Assistant Professor CRAWFORD.

This course is planned for home management house advisers and others preparing for this type of teaching. Attention is focused on organization, supervision, and methods of teaching a residence course. Fee, \$3.

*Educ. 490. *TEACHING HOME ECONOMICS IN HIGHER EDUCATION*. (G) 2 hours credit. M T W Th F 9. Associate Professor PATTERSON.

This course deals with: (a) the contributions of home economics at the college level; (b) the educative values of group processes; (c) factors affecting student learning; (d) the choice of teaching procedures and materials for college teaching. Fee, \$3.

ADULT EDUCATION. (See Adult and Higher Education, page 29)

SCHOOL AND COMMUNITY RELATIONSHIPS. (See Sociology, page 62)

INDUSTRIAL EDUCATION

Educ. 333. *DEVELOPMENT OF WRITTEN INSTRUCTIONAL MATERIALS.* (U,G) 2 hours credit. M T W Th F 8. Professor EMERSON.

A study of the various types of instructional materials such as textbooks, instruction sheets, manuals, and audio-visual aids; conditions under which the various types are effective; methods of use of instructional materials; sources; the use of instructional materials in schools, industrial organization, and unions. Considerable attention will be given to the procedures and techniques used in developing new instructional materials.

Educ. 335. *WORKSHOP: DEVELOPMENT OF INSTRUCTIONAL MATERIALS.* (U,G) 6 hours credit. M T W Th F 8-4:30. Mr. RANEY and Mr. COE.

A workshop designed to provide opportunity, through consultant service and laboratory facilities, for students to prepare and revise instructional materials for courses in industrial and technical education. Students will be expected to have done preliminary work on their instructional materials, and to bring with them such data as will be useful. Permission of the instructor is required.

Educ. 336. *VOCATIONAL-TECHNICAL EDUCATION.* (U,G) 2 hours credit. Professor EMERSON.

A study of technical programs of terminal character in the high school and on the post-high school level. Deals with the program patterns of the technical high school and the technical institute; technical curriculums in vocational schools, junior colleges, other educational institutions, and industry; the historical development of these institutions; administrative patterns; and a comparative study of developments and trends in this field in various parts of the United States.

Educ. 364. *TRAINING IN INDUSTRY.* (U,G) 2 hours credit. M T W Th F 10. Associate Professor BROPHY.

A study of purposes underlying the establishment of plant training programs; patterns of organization, administration, and operation; out-of-plant supplementary educational facilities; sources and qualifications of plant training personnel; and types of programs such as orientation, on-the-job training, apprenticeship, supervisor and executive training, and out-of-hours courses.

Educ. 630. *SUPERVISION OF INDUSTRIAL EDUCATION.* (U,G) 2 hours credit. M T W Th F 9. Mr. MCCARTHY and Mr. MORGENROTH.

Study of the nature and purpose of educational supervision; fundamental principles of supervision; techniques and methods of supervision; the planning and organization of a supervisory program; the supervisors' responsibility for appraising the adequacy of equipment, materials, and supplies for instructional purposes; relationships of the supervisor to administrators and teachers; evaluation of student and teacher achievement.

Educ. 632. *ADMINISTRATION OF INDUSTRIAL EDUCATION.* (U,G) 2 hours credit. M T W Th F 11. Mr. MCCARTHY and Mr. MORGENROTH.

Study of administrative practices in industrial and technical schools. Relationships of the administrator with other school officers, advisory committees and their func-

tioning, public relations, problems of plant and equipment, budgetary procedures, staff personnel relations, teacher selection and induction, student personnel procedures, evening school organization and administration.

Educ. 634. *INDUSTRIAL EDUCATION IN SMALLER COMMUNITIES*. (U,G) 2 hours credit. M T W Th F 8. Professor BEACH.

The organization and conduct of industrial education programs serving smaller high schools or consolidated school districts. Emphasis will be placed upon diversified part-time cooperative programs, apprentice training classes and vocational schools, county unit programs, and intermediate school districts.

Educ. 637. *INDUSTRIAL ARTS INSTRUCTIONAL MATERIAL WORKSHOP*. (U,G) 2 hours credit. M T W Th F 1-3. Mr. Coe.

A workshop designed to provide opportunity through consultant service and library facilities for students to prepare and revise instructional materials in industrial arts education courses. Students will be expected to have done preliminary work on instructional materials which they plan to develop. Persons planning to take this course should bring with them such data as will be useful.

NATURE STUDY AND SCIENCE EDUCATION

*Educ. 106. *SURVIVAL IN OUTDOOR LIVING*. (U,G) 2 hours credit. T Th 2-4:30, and two overnights. Mr. FOWLER.

Practice and understanding of the techniques of survival in an emergency when permanent shelter is unavailable. Designed to provide leadership for school and other groups called upon to meet such an emergency. Fee, \$5.

Educ. 107. *THE TEACHING OF NATURE STUDY AND ELEMENTARY SCHOOL SCIENCE*. (U,G) 2 hours credit. Lectures M W F 11; laboratory or field work T Th 2-4:30. Mr. ECKERT.

The content and method of nature study and elementary school science with emphasis on the earth science aspects.

Educ. 108. *FIELD NATURAL HISTORY*. (U,G) 2 hours credit. Lectures M W 2-2:50; field trips M W 2:50-5:20, F 2-4:30. Assistant Professor GORDON.

Field trips and lectures devoted to a study of the natural history of various ecological units, with special emphasis on their contributions to the teaching of science.

Educ. 202. *NATURE LITERATURE*. (U,G) 2 hours credit. M T W Th F 9. Assistant Professor GORDON.

A survey of nature and science prose, poetry, and fiction, with attention to their significance at elementary and secondary levels.

Educ. 204. *SENSORY AIDS IN TEACHING*. (U,G) 2 hours credit. M T W Th F 8. Professor PALMER.

The preparation of illustrations, scenarios, radio scripts, and other sensory aids with emphasis on science and conservation education where mass teaching is an important goal.

Educ. 227. *METHODS AND MATERIALS FOR THE TEACHING OF BIOLOGY*. (U,G) 2 hours credit. M T W Th F 10. Professor PALMER.

A consideration of problems of selection and organization of subject matter, of choice and use of materials, and of methods of teaching biology.

RESEARCH AND SPECIAL STUDIES

Educ. 199. *INFORMAL STUDY IN EDUCATION*. (U) Credit as arranged. Members of the staff of the School of Education.

This privilege may be granted to a qualified Cornell student of junior rank or above, with the approval of his adviser and the consent of the appropriate member of the Faculty of the School of Education.

Educ. 299. *EDUCATIONAL RESEARCH PROCEDURES AND TECHNIQUES*. (G) 2 hours credit. M T W Th F 10. Associate Professor SMITH.

Meaning of scientific method and research; attention given to appropriate techniques, instruments, and devices for research problems in education.

Educ. 300. *SPECIAL STUDIES IN EDUCATION*. (G) Credit as arranged. Members of the staff of the School of Education.

Students working on theses or other research projects may register for this course. The staff members concerned must be consulted before registration.

TESTS AND MEASUREMENT

Educ. 251. *EDUCATIONAL MEASUREMENT*. (G) 2 hours credit. M T W Th F 8. Associate Professor BAYNE.

The use and interpretation of tests by teachers and school officers as aids in the improvement of instruction.

See also Psychology, page 59.

WORKSHOP IN FAMILY LIFE EDUCATION AS A PART OF GENERAL EDUCATION

Educ. 420u. *WORKSHOP IN FAMILY LIFE EDUCATION AS A PART OF GENERAL EDUCATION*. Workshop for teams of school administrators and teachers. (G) 2 hours credit. Full time July 9-21. Coordinator: Professor HUTCHINS. Leaders: Dr. MALLORY, Dr. ANDERSON, Miss LAWSON, Miss KLEE, and Professor ELLIOTT. Consultants: Professor ROCKWOOD, Professor BLACKWELL, Professor BUTTERWORTH, Dr. FRIER, Miss MCCHESENEY, Dr. NORVELL, Mr. SPENCER, Professor STUTZ, Mr. TEMPLETON, and Professor WINSOR.

This two-week workshop is sponsored by the United States Office of Education; the New York State Education Department; and the Summer Session, the School of Education, and the College of Home Economics, Cornell University.

The workshop is based upon four assumptions: (1) that education for home and family life is an important part of the general education of persons at all age levels; (2) that it affords one of the best mediums through which other outcomes of general education can be achieved; (3) that several areas of education have unique contributions to make to education for home and family life; and (4) that an effective program of home and family life education can be planned and executed only with the sympathetic understanding of the administrator and the cooperation of teachers who represent these several areas of education. Therefore, the workshop will give opportunity for administrators and teachers representing various subject-matter areas to work together on plans which may serve as bases for the development of programs of home and family life education in their schools.

Part of each day will be devoted to group discussions and part to concentrated work by the participants. In addition to the scheduled activities of the workshop, informal gatherings at mealtimes and evening get-togethers will make social group life and further exchange of ideas possible.

The meeting place will be in Martha Van Rensselaer Hall. The tuition will be \$30.

Because of the nature of this workshop, the number of participants will necessarily be limited. It is suggested that teams of two or more persons from a school attend the workshop. Write for further details, before April 15, to: Professor Margaret Hutchins, College of Home Economics, Cornell University, Ithaca, New York.

EXTENSION EDUCATION

From July 9 to July 28, inclusive, eight courses are offered primarily for the professional improvement of persons engaged in extension work in agriculture, home economics, and boys' and girls' club work. Emphasis is on program building, 4-H Club organization, public policy, psychology, extension information service, supervision, and their application in extension education. Afternoons will be devoted to optional activities, such as field trips, visits to laboratories, attention to various projects of interest, and individual lectures. Applicants should note that these are unit courses beginning one week later than the regular session. The tuition fee is \$40. For full particulars the Extension Service Summer School Announcement may be obtained by writing Professor L. D. Kelsey, Roberts Hall, Cornell University.

Two courses are given in each period. Each period is 75 minutes in length, with 15 minutes between classes. Courses daily except Saturday, July 21, and Saturday, July 28. A student may register in two courses only. Each course gives 1½ hours credit.

8 A.M.

Extch. 1u. *EXTENSION WORK WITH 4-H CLUBS AND YOUNG ADULTS.* (G) 1½ hours credit. Daily. Professor LANG. Warren Hall, Room 240.

A semiworkshop specially designed for county 4-H Club agents and other Extension Service youth workers. It will deal with the interests and needs of 4-H Club members and other young men and women as well as with the objectives, planning, methods, and leader training involved in work with these groups. Each person should plan to pursue a problem of his own choosing. Students are urged to bring files of their own materials for use in class work.

Extch. 2u. *EXTENSION'S ROLE IN THE FIELD OF PUBLIC PROBLEMS.* (G) 1½ hours credit. Daily. Professor MAUCH. Warren Hall, Room 140.

County agents, home demonstration agents, and extension specialists are constantly faced with questions of fact regarding public policy and how to work with people in these broad social, economic, and political matters. This course gives an analysis of some of the more important public problems that involve organized or governmental action. Such problems may be local, state, regional, national, or international, with political, social, or economic implications involving price controls, production controls, income plans, trade agreements, land use, social security, soil conservation, and the relationship of agriculture to other segments of our economy. Emphasis will be on methods as well as subject matter.

Extch. 3u. *OPEN HOUSE SEMINAR.* Daily. Mr. SCHMIDT and others. Room to be announced.

A period for review and analysis of major rural youth programs in the United States and for the exchange, interpretation, and evaluation of the observations and experiences of Open House delegates. The study of rural youth programs will be accomplished with the assistance of national leaders of these programs.

9:30 A.M.

Extch. 4u. *PROGRAM BUILDING IN EXTENSION EDUCATION.* (G) 1½ hours credit. Daily. Professor LEAGANS. Warren Hall, Room 240.

A systematic analysis of the extension program-building process, with emphasis on basic principles and the procedures for applying them. The course is designed to help extension workers further develop a workable understanding of the nature of the program-building process and to help them acquire some useful approaches. Special consideration is given to procedures for (1) arriving at objectives for pro-

grams, (2) designing educational activity likely to attain those objectives, and (3) organizing educational effort to attain continuity and integration in long-time programs. The approach is equally applicable to homemaking and agricultural activity. Students expecting to enroll in this course are encouraged to bring sample materials, such as county programs and statements of procedures now in use.

Extch. 5u. *SUPERVISION OF EXTENSION WORK*. (G) 1½ hours credit. Daily. Mr. POTTER. Warren Hall, Room 140.

A course designed especially for Extension Directors, State Leaders, and District Agents. This course deals with Extension Service administrative and supervisory principles, functions, and methods; personnel management, relationships, and evaluations; training of agents and techniques of handling supervisory problems.

Extch. 6u. *4-H CLUBS AND YOUNG ADULT WORK*. (Section B) (G) 1½ hours credit. Daily. Professor LANG, Mr. SCHMIDT and others. Room to be announced.

This course will attempt to define the basic principles of informal educational programs for rural youth in the United States as reflected by 4-H Clubs, extension work with young adults, and other United States rural youth programs. The interests, needs, and situations of rural youth in other countries will be examined. The effect of cultural variations on the proposed basic principles will be studied.

11 A.M.

Extch. 7u. *EXTENSION INFORMATION*. (G) 1½ hours credit. Daily, Professor LONGSDORF. Warren Hall, Room 240.

A course designed to assist county and state extension workers to use with maximum efficiency newspapers, radio, publications, circular letters, exhibits, posters, and visual aids. Throughout, suggestions are offered on subject-matter presentation. The workshop plan is followed, giving students opportunity to take part in discussions, newswriting, radio presentations, letter writing, and picture taking, and in planning for a practical program of information that can be used upon their return to their posts of duty. The course emphasizes the practical application of journalism to everyday extension work. It is a course planned "to learn by doing."

Extch. 8u. *PSYCHOLOGY FOR EXTENSION WORKERS*. (G) 1½ hours credit. Daily. Professor KRUSE. Warren Hall, Room 140.

A point of view in education and in psychology for Extension Service workers. The nature of man, with emphasis on the tendencies basic to effective influencing of human behavior; how people become changed as to their behavior (this phase treats the nature of learning, basic principles of learning, major types of learning, and conditions favorable for learning).

ENGINEERING

AERONAUTICAL ENGINEERING

Engr. 7407. *AIRCRAFT STRUCTURES*. (G) 3 hours credit. Schedule to be announced. Assistant Professor RIPARBELLI.

1. Thin wall beams under shear and torsion. Sections with multiple webs. Wings. Analysis of continuous redundants. Methods of analysis of cantilever wings. Elementary theory of shells. Reinforced shells as redundant structures. Nonlinear behavior of beams. Buckling of beams. Shells after buckling. Failure analysis of reinforced shells. Problems of minimum weight.

2. Load determination on airplane structures.

3. Properties of some materials used in airplane construction.

4. Dynamics of airplane structures. Example of analysis of flutter. Design parameters of wings. Dynamics of undercarriages. Landing.

THE CURRICULUM

CIVIL ENGINEERING

Engr. 2331. *FLUID MECHANICS*. (U) 3 hours credit. Prerequisites, Mechanics 1152. M T W Th F S 9. Associate Professor PRIEST.

Statics, dynamics of fluid flow, law of continuity, energy equation, turbulence, flow of compressible and incompressible fluids, impulse momentum relations, resistance of submerged bodies, lubrication, and hydraulic machinery. Several demonstration lectures are given to illustrate the principles of fluid mechanics.

Engr. 2709. *ADVANCED STRUCTURAL ANALYSIS*. (G) 3 hours credit. Prerequisite, a course in indeterminate structures. Five 1-hour lectures a week. Time to be arranged. Assistant Professor FISHER.

Review and critical comparison of fundamental methods of statically indeterminate analysis and extension to advanced problems. Frames comprising members of variable cross-section and members curved in plan or elevation, wind stresses, semi-rigid framing, space frameworks. Influence lines, numerical methods, and model analysis for design.

Engr. 2711. *THEORY OF ELASTIC STABILITY*. (G) 3 hours credit. Prerequisite, elementary differential equations. Five 1-hour lectures a week. Time to be arranged. Professor WINTER.

Buckling of columns in the elastic and inelastic domain. Solid and open-section columns with variable section. Influence of eccentricity and initial crookedness. Beam-columns. Buckling of laterally unbraced beams. Buckling loads and ultimate strength of thin plates and members composed of thin plates. Design of thin-wall metal structures. Critical discussion of current design specifications.

Engr. 2713. *PLASTICITY IN ENGINEERING*. (G) 3 hours credit. Prerequisite, strength of materials and differential equations. Five 1-hour lectures a week. Time to be arranged. Associate Professor BIJLAARD.

Atomic and crystalline structure. Plastic versus brittle behavior. Plasticity condition and mechanism of plastic deformation with constant and varying ratio of the stress components. Theory of local plastic deformations. Upper and lower yield stress, flow lines, necking of mild steel. Riveted and welded joints. Method of limit design. Plastic buckling of columns and plates. Thick tubes. Slip lines in cases of plane strain. Creep. Fracture.

Engr. 2715. *REINFORCED CONCRETE DESIGN*. (U) 3 hours credit. Prerequisite, 2701. M T W Th F 1:30-4:00. Mr. BLEVINS.

A first course in reinforced concrete. Elementary theory of reinforced concrete is applied to rectangular beams, slabs, T-beams, beams reinforced for compression, columns, and footings. Shear, diagonal tension, and direct stress combined with flexure are treated. Several design reports are required which include reinforcement drawings, schedules, and formwork.

Engr. 2902. *ENGINEERING LAW*. (U) 3 hours credit. M T W Th F S 8. Professor THATCHER.

An introductory course in the laws of contract, tort, agency, real property, water rights, forms of business organization, sales, and negotiable instruments; special emphasis on contract documents required on construction work; collateral topics such as workmen's compensation, mechanics' liens, arbitration, and patent law are also included.

ELECTRICAL ENGINEERING

Engr. 4111. *BASIC ELECTRICAL ENGINEERING*. (U) 4 hours credit. Prerequisites, Mathematics 163, Physics 117, Chemistry 102 or 106. Lecture T Th 9; recitation, M T W Th F 11; computing T Th 1:40-4:30. Assistant Professor DAVIES.

This is the first of two successive courses presenting the basic elements of electrical engineering common to the several branches of study that follow. They present the elemental concepts and laws of electricity and their application, with emphasis on analysis rather than the memorization of formulas. The student is encouraged to regard the physical significance of problems and to question the mathematical result of a combination of formulated principles.

The material covered is identified with the following topics: conductors and resistance; electrical measuring instruments; resistance measurement; electromotive force and its sources; electromagnetic induction; alternating emf; power-distribution circuits; d-c electrical networks and methods of solution; conductors of nonuniform section or material; mapping of current paths; magnetics, magnetic circuits, and forces, electromagnets; self- and mutual-inductance, coupling, reactors; electrostatic energy, fields, and forces; capacitance; transient and alternating currents in circuits with resistance and inductance, in circuits with resistance and capacitance, and in series circuits with resistance, inductance, and capacitance. Text: Strong's *Electrical Engineering*.

ENGINEERING MATERIALS

Engr. 1222. *ENGINEERING MATERIALS*. (U) 3 hours credit. Prerequisite, 1221. M T W Th F 9; S 8-10. Professor STUART.

An elementary lecture course in engineering materials covering corrosion, fuels and their combustion, refractories, cementing materials and concrete, wood, rubber, plastics, lubricants, and the testing and inspection of materials.

Engr. 1231. *ENGINEERING MATERIALS LABORATORY—METALS AND ALLOYS*. (U) 3 hours credit. Prerequisites, Engineering Materials 1221 and Strength of Materials 1153. May be taken simultaneously with the latter course. M Th 1-4:30. Professor STUART.

A course dealing with materials testing and the properties of metals and alloys. The following types of tests with testing machines and strain measurement will be performed: tension, torsion, compression, bending, impact, fatigue, hardness, and ductility. The relation between the properties, structure, selection, inspection, and use of metals and alloys will be shown by the following experiments: carbon steels, cast irons, heat treatment, nonferrous metals and alloys, metallography, spectrography, radiography, and magnaflux.

Engr. 1232. *ENGINEERING MATERIALS LABORATORY—NONMETALLIC MATERIALS*. (U) 3 hours credit. Prerequisites, Engineering Materials 1222 and 1231. T F 1-4:30. Mr. BUCHBINDER.

A course dealing with materials testing and the properties, composition, selection, and use of the following nonmetallic materials: oils and lubricants, fuels (solid, liquid, and gaseous), plastics, wood, cementing materials, and concrete.

ENGINEERING MECHANICS

Engr. 1151. *MECHANICS OF ENGINEERING—STATICS*. (U) 3 hours credit. Prerequisites, Physics 115 and parallel registration in Mathematics 163. M T W Th F S 11, W 2:30-4. Mr. STEG.

The principles of statics of particles, chains, and rigid bodies. Equilibrium, friction, centroids, moments and products of inertia, virtual displacements, graphical methods, three-dimensional trusses and frames.

Engr. 1152. *MECHANICS OF ENGINEERING—DYNAMICS*. (U) 3 hours credit. Prerequisites, 1151 and Mathematics 163. M T W Th F S 10, W 1-2:30. Mr. CAMERON.

The principles of dynamics of particles and rigid bodies. Rectilinear, curvilinear, rotational, and general plane motion of rigid bodies. Impulse-momentum, work-energy, virtual work.

Engr. 1153. *MECHANICS OF MATERIALS*. (U) 3 hours credit. Prerequisites, 1151 and parallel registration in 1152. M T Th F 12, S 11-1, W 2:30-4. Associate Professor PERKINS.

Stress and strain, tension, compression, and shear, riveted and welded joints, elementary beam theory, combined stresses, columns, strain energy, beams on several supports.

Engr. 1154. *ADVANCED STRENGTH OF MATERIALS*. (U) 3 hours credit. Prerequisite, Course 1155. M T W Th F S 10, W 1-2:30. Associate Professor PERKINS.

Strength, stiffness, and stability of machine parts, disks, plates, shells, thick cylinders, straight and curved beams; principal stresses in two and three dimensions; fatigue and theories of failure.

Engr. 1155. *APPLIED MATHEMATICS*. (U) 3 hours credit. Prerequisites, 1152 and 1153. M T W Th F S 11, W 2:30-4. Mr. CAMERON.

The formulation and solution of problems arising in mechanical engineering which involve the use of elementary differential equations and Fourier Series. Emphasis is placed on numerical as well as analytical methods of solution.

Engr. 1164. *APPLIED ELASTICITY*. (G) 3 hours credit. Prerequisite, 1163. Hours to be arranged. Professor CONWAY.

General analysis of stress and strain, Airey's stress functions in cartesian and polar coordinates, trigonometric and strain energy methods; torsion of bars of arbitrary section; the membrane analogy, the Griffith-Taylor graphical method, effects of grooves, torsion of thin tubes, stress in thick cylinders and disks due to pressure, heating, and rotation; beams on elastic foundations; revision of Castigliano's theorem and virtual displacements, application to frameworks and rings, closed rings under hydrostatic pressure.

Engr. 1182. *ELEMENTARY MECHANICS OF MATERIALS FROM AN ADVANCED STANDPOINT*. (G) 3 hours credit. Prerequisites, courses in elementary differential equations and strength of materials. (Primarily for teachers and advanced students.) Hours to be arranged. Professor CONWAY.

The standard problems of flexure and torsion of beams, columns, and other structural shapes will be treated from both an elementary and an advanced standpoint with emphasis on the assumptions made in each case. The results will then be compared in order to obtain a better perspective of the accuracy of the conventional elementary methods. Historical background will be included throughout the course.

MECHANICAL ENGINEERING

Engr. 3235. *INDUSTRIAL ORGANIZATION AND MANAGEMENT*. (U,G) 3 hours credit. No prerequisite. Lectures M T W Th F S 9, W 1-2:30. Assistant Professor SAMPSON.

An introductory course in the field of industrial management. The course starts with the Industrial Revolution and deals briefly with the principles of mass production, types of business enterprise, and the location and growth of industry. Then, in somewhat more detail, are discussed the organization of the plant facilities and the plant personnel with special emphasis on the layout of the plant, types of organizational control, personnel functions, motion and time study, and wage payment systems.

Engr. 3502. *HEAT POWER LABORATORY*. (U,G) 2 hours credit. Prerequisite, Course 3501. Laboratory periods M T Th F 2-4:30. Professor ERDMAN.

Laboratory study of application, calibration, and accuracy of instruments used in heat-power laboratory, including pressure gages, manometers, planimeters, indicators, tachometers, dynamometers, fluid flow meters, calorimeters, gas analyzers, psychrometers.

Engr. 3353. *DESIGN OF MACHINE MEMBERS*. (U,G) 3 hours credit. Prerequisites, Course 3351 and registration in Courses 1154 and 1231. Lecture and recitation M T W Th F 11. Two computing periods to be arranged. Assistant Professor PHELAN.

Application of mechanics, kinematics, materials, and processes to the design and selection of machine members, such as fastenings, links, springs, translation screws, belts, wire rope, chains, couplings, clutches, brakes, gears, shafting, and bearings.

For information about the special summer program for engineering teachers write to:

Dr. N. A. Christensen, Director
School of Engineering
Cornell University
Ithaca, New York

ENGLISH, SPEECH AND DRAMA

ENGLISH

Engl. 221. *AN INTRODUCTION TO POETRY*. (U) 2 hours credit. M T W Th F 9. Assistant Professor HEALEY.

Emphasis upon developing the understanding and enjoyment of poetry. Reading and discussion of a variety of poems, from the simple to the moderately complex.

Engl. 302. *MODERN DRAMA*. (U,G) 2 hours credit. M T W Th F 8. Dr. PARTRIDGE.

The drama since Ibsen; important European and American plays; types and forms.

Engl. 310. *THE METAPHYSICALS AND THE MODERNS*. (U,G) 2 hours credit. M T W Th F 9. Professor BALD.

The metaphysical poets from Donne to Marvell, with emphasis on their influence upon twentieth-century poetry and criticism.

Engl. 318. *SHELLEY AND KEATS*. (U,G) 2 hours credit. M T W Th F 11. Associate Professor ABRAMS.

A close study of the poems, in connection with Shelley's *Defence of Poetry* and Keats's letters.

Engl. 323. *BROWNING AND HIS CONTEMPORARIES*. (U,G) 2 hours credit. M T W Th F 10. Professor FRENCH.

Browning will receive most of the attention, but Matthew Arnold's poems and those of others will also be studied. Textbook: Stephens, Beck, and Snow, *Victorian and Later English Poets*.

Engl. 326. *MODERN ENGLISH POETRY*. (U,G) 2 hours credit. M T W Th F 10. Professor DAICHES.

An introduction to twentieth-century English poetry, with particular attention paid to the work of Yeats, Eliot, Auden, and Dylan Thomas.

Engl. 330. *AMERICAN LITERATURE SINCE 1860*. (U,G) 2 hours credit. M T W Th F 11. Professor MYERS.

Emphasis upon trends in poetry (from Whitman), realism, and democratic ideals.

Engl. 334. *THE MODERN AMERICAN SOCIAL NOVEL*. (U,G) 2 hours credit. M T W Th F 9. Associate Professor HATHAWAY.

Novelists who have presented interpretations of the social structure of modern American life: Sinclair Lewis, John Dos Passos, James T. Farrell, John Steinbeck, Robert Penn Warren, and William Faulkner. The course does not duplicate either English S 335 (1949) or S 336 (1950).

Engl. 369. *SHAKESPEARE'S COMEDIES AND HISTORIES*. (U,G) 2 hours credit. M T W Th F 10. Professor BALD.

Shakespeare's dramatic art as illustrated in his comedies and histories.

Engl. 373. *MILTON*. (U,G) 2 hours credit. M T W Th F 12. Professor DAICHES. Milton's poetry and intellectual environment, with particular emphasis on *Paradise Lost*.

Engl. 382. *THE ENGLISH LANGUAGE*. (U,G) 2 hours credit. M T W Th F 12. Professor FRENCH.

The course will be divided about equally between the development of the language in the past and several current problems: usage, grammar, pronunciation, semantics. No special training in foreign languages is required. Textbook: Stuart Robinson, *The Development of Modern English*.

Engl. 385. *CREATIVE WRITING*. (U,G) 2 hours credit. M T W Th F 11. Associate Professor HATHAWAY.

Particular emphasis upon writing short stories and poetry. Analysis of students' writing, study of models and trends, personal conferences.

Engl. 393. *THE PSYCHOLOGY OF LITERATURE*. (U,G) 2 hours credit. M T W Th F 12. Associate Professor ABRAMS.

The contributions of modern psychology to the interpretation of literature, and to problems of literary creation and evaluation.

Engl. 552. *SEMINAR: DRAMATIC LITERATURE*. (G) 2 hours credit. T Th 2-4. Professor MYERS.

A study of the theory of comedy and of representative examples.

Engl. 905. *SPECIAL TOPICS FOR INVESTIGATION*. (G) 2 hours credit. Conferences to be arranged.

For graduate students writing Masters' essays or engaging in special research. The course is administered by various members of the staff: students who wish to be put in touch with a suitable director for the work they have in mind may write to or consult Professor W. H. FRENCH.

SPEECH AND DRAMA

Sp.&Dr. 101 *PUBLIC SPEAKING*. (U) 2 hours credit. M T W Th F 11. Professor WICHELS.

Practice in speechmaking on topics of current interest. Methods of preparation and delivery studied in relation to practice; class discussion; conferences. Regular students passing the course are admitted to Speech and Drama 102 and 213.

Sp.&Dr. 131. *VOICE TRAINING*. (U,G) 2 hours credit. M T W Th F 8. Professor THOMAS.

An elementary course for the improvement of the speaking voice. Individual and group practice in the overcoming of such faults as nasality, weak quality, and indistinctness. Attention to the principles of voice production.

Sp.&Dr. 205. *CONFERENCE METHODS AND GROUP DISCUSSION*. (U,G) 2 hours credit. M T W Th F 9. Assistant Professor ARNOLD.

Introduction to the principles of group thinking with special attention to problem solving and decision making through conference methods. Readings; lectures; practice in informal and committee discussions, in committee hearings, and in the dissemination of information through conference procedures.

Sp.&Dr. 225. *CLASSIC SPEECHES IN AMERICAN HISTORY*. (U,G) 2 hours credit. M T W Th F 10. Professor WICHELS.

A study of public discussion in the age of the Revolution, in the pre-Civil War period, and in the age of radio, centering upon the work of Henry, Webster, Lincoln, and F. D. Roosevelt. Lectures, readings, and reports; some practice in composition and delivery.

Sp.&Dr. 231. *SPEECH FOR THE CLASSROOM TEACHER*. (U,G) 2 hours credit. M T W Th F 11. Assistant Professor ARNOLD.

Study and practice of speech skills especially important to teachers at all levels of instruction. Readings; lectures; practice in pronunciation, exposition, reading aloud, lecturing, and leading discussions.

Sp.&Dr. 290. *THESES AND SPECIAL PROBLEMS IN PUBLIC ADDRESS*. (G) 2 or more hours credit. Professor WICHELS.

Required of regularly registered summer session graduates working on theses. Open to other graduates prepared for the independent study of special topics in rhetoric and public speaking.

Sp.&Dr. 333. *TEACHERS' COURSE IN PHONETICS AND SPEECH TRAINING*. (U,G) 2 hours credit. M T W Th F 9. Professor THOMAS.

A study of English phonetics, pronunciation, and the improvement of speech; primarily for secondary and elementary school teachers.

Sp.&Dr. 390. *THESES AND SPECIAL PROBLEMS IN SPEECH TRAINING AND PHONETICS*. (G) 2 or more hours credit. Professor THOMAS.

Required of regularly registered summer session graduates working on theses. Open to other graduates prepared for the independent study of special topics in speech training and phonetics.

Sp.&Dr. 401. *DRAMATIC PRODUCTION: DIRECTION*. (U,G) 2 hours credit. M T W Th F 10. Associate Professor ALBRIGHT.

For upperclassmen and graduates. Theory of stage direction; fundamentals of theatrical mounting; survey of practical phases of production. Prerequisite for further work in dramatic production.

Sp.&Dr. 421. *DRAMATIC INTERPRETATION*. (U,G) 2 hours credit. M W F 3-5. Associate Professor ALBRIGHT.

A practice course in oral interpretation, pantomime, acting, and group rehearsal.

Sp.&Dr. 433. *THEATRE PRACTICE*. (U,G) 2 or 4 hours credit. Hours to be arranged. Mr. JEWETT and the Theatre staff.

Technical practice coordinated with the regular productions of the Summer Theatre; readings in the techniques involved.

Sp.&Dr. 475. *INTRODUCTION TO MODERN THEORIES OF DRAMATIC PRODUCTION*. (U,G) 2 hours credit. M W F 2-3:30. Professor DRUMMOND.

Principles of theatrical presentation, with special attention to the development of modern theater art and criticism. Lectures, readings, and reports. Textbook: Gorelik's *New Theatres for Old*.

*Sp.&Dr. 480. *THE MOTION PICTURE: A SURVEY*. (U,G) 2 hours credit. M T W Th F 12. Associate Professor STANTON.

The development of the motion picture as a modern art. Characteristic problems

and devices of the art; economic and social aspects; the documentary film; the educational film. Numerous films will be viewed. Students are required to attend the film programs of the Summer Theatre. Fee \$3.

Sp.&Dr. 490. *THESES AND SPECIAL PROBLEMS IN DRAMA AND THE THEATRE.* (G) 2 or more hours credit. Professors DRUMMOND, STANTON, and ALBRIGHT.

Required of regularly registered summer session graduates working on theses. Open to other graduates prepared for the independent study of special topics in drama and the theater.

SPEECH CLINIC. No credit. For students working under the direction of the department. Professor THOMAS. By appointment.

Students may elect a major and/or a minor with emphasis on (1) Public Address, (2) Phonetics and Speech Training, (3) Drama and the Theatre. For students planning a program of graduate studies in successive summers, advanced courses in each of these three areas are offered in alternating sessions and special provision is made for directed independent study.

RADIO AND JOURNALISM

Journ. 200. *RADIO BROADCASTING: A SURVEY.* (U,G) 2 hours credit. Lectures M T W Th F 9. Professor CULMSEE.

Traces the development of the radio industry from its beginning to the present time. Attention is given to the influence of radio on the public mind, the problems of station management, and government control. The course also covers the actual gathering and correlating of radio material and a discussion of results.

Journ. 201. *WRITING AND SELLING FEATURE ARTICLES.* (U,G) 2 hours credit. Lectures M T W Th F 11. Professor CULMSEE.

This course gives the student the opportunity to write nonfiction feature articles in any field of his choice and submit them to magazines or newspapers for publication; manuscripts will be analyzed by the instructor and the class, and periodicals will be studied to determine available markets and what editors will buy.

FINE ARTS

ART: HISTORY AND APPRECIATION

Art 102. *INTRODUCTION TO RENAISSANCE AND MODERN ART.* (U,G) 2 hours credit. Lectures M T W Th F 12. Professor WAAGÉ.

The relationship of art to society in Western Europe from 1400 to the present, as exemplified in the works of the major painters and sculptors.

Art 507. *TWENTIETH CENTURY ART.* (U,G) 2 hours credit. Lectures M T W Th F 10. Professor WAAGÉ.

The consequences of the divorce of painting and sculpture from social function; painters' painting and expressionism; individualistic and clique vagaries; attempts toward reintegration.

DRAWING AND PAINTING

Dr.&P. 300. *PAINTING AND COMPOSITION.* (U,G) 2 hours credit. M T W Th F 8-10. Assistant Professor EVETT.

A studio course dealing with the fundamentals of painting. In the study of some of the principal considerations of modern art, the classroom assignments progress

from simple to more complex pictorial organizations. Though not an elementary presentation, the course has no prerequisites and is open to both beginners and intermediate students. Media: tempera and casein.

Dr.&P. 302. *PAINTING AND COMPOSITION*. (U,G) 2 to 6 hours credit. M T W Th F 10-12. Registration by permission of the instructor. Assistant Professor EVETT.

Studio work for students with considerable experience in painting who can develop given themes with certain assurance and clarity. Principally independent work with regular criticism.

MUSIC

Music 101. *THE ART OF MUSIC*. (U) 2 hours credit. M T W Th F 11. Associate Professor AUSTIN.

An approach to the understanding and rational enjoyment of the art of music, offered especially for students who have had no technical training in the subject. Most of the outside work consists of listening to phonograph records.

Music 377. *SEMINAR IN MUSICOLOGY*. (G) Credit and hours to be arranged after consultation. Prerequisites, a knowledge of music theory and general music history and some skill in applied music and score reading; also (depending on the topic chosen) a reading knowledge of the requisite foreign language or languages. A particular topic of study will be assigned to each student after consultation. Associate Professor AUSTIN.

Music 021. *INFORMAL STUDY*. (U,G) Credit and time to be arranged after consultation. Miss ARCHER.

*Music 401. *PIANO*. (U) 1 hour credit (this credit may be counted toward a Cornell degree only by those students who have at least two hours' credit in theoretical or historical music courses). Prerequisite, consent of the instructor. Hours to be arranged. Miss ARCHER.

For two half-hour lessons weekly throughout the Summer Session, a special fee of \$30 is charged. Fee payable at the office of the Department of Music at time of registration with the instructor.

SAGE CHAPEL CHOIR. All men and women interested in singing in the Sunday Chapel services may report to Miss ARCHER at 7 P.M. on July 2, in the choir loft of Sage Chapel, for discussion of plans and decision on a suitable schedule of rehearsals.

HOME ECONOMICS

CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS

*C.D.&F.R. 310. *PRINCIPLES FOR CHILD GUIDANCE*. (G; U by permission) 2 hours credit. No prerequisite, but a basic course in child psychology is desirable. M T W Th F 8. Nursery School observations, 3 hours a week, to be arranged with the instructor during registration. Professor WARING.

The behavior of young children and the influence of adults upon their learnings will be observed and studied as a basis for developing principles of guidance. Observations, to include typical activities, will be scheduled at different hours of the day. Fee, \$5.

*C.D.&F.R. 317. *SOCIAL AND EMOTIONAL DEVELOPMENT OF THE CHILD*. (U,G) 2 hours credit. M T W Th F 10. Acting Assistant Professor FELDMAN.

Understanding the psychological growth and development of the child from birth

through adolescence. Emphasis will be placed upon social and emotional development. The place of maturation in growth will be briefly considered. Fee, \$2.

*C.D.&F.R. 333. *EXPERIENCE WITH CHILDREN'S GROUPS*. (U,G) 2 hours credit. Discussion period: time to be arranged. Approximately ten hours of participation and discussion each week. Two free mornings or a morning and an afternoon period will allow time for participation. Associate Professor REEVES.

Consideration of community programs for children two to twelve years old. Underlying principles of program planning for children; and organization and administration of groups such as nursery schools, cooperative play groups, day camps, and play schools; practical experience through participation in one or more groups. Students interested in this course are requested to apply for admission by letter prior to June 16. Fee, \$5.

*C.D.&F.R. 351. *CHILDREN'S LITERATURE*. (U,G) 2 hours credit. M T W Th F 9. Associate Professor REEVES.

Literature as a resource in children's living. The relation of children's literature to world literature. Traditional and modern forms. Illustration in children's books. Reading interests of children two to twelve. Fee, \$5.

*C.D.&F.R. 360. *PSYCHODYNAMICS OF HUMAN BEHAVIOR*. (U,G) 2 hours credit. M T W Th F 9. Assistant Professor BRAITHWAITE.

A study of the motivating forces in human behavior. Both conscious and unconscious processes directing behavior will be considered. Special attention will be given to the teacher's task of dealing with personality problems of pupils. Fee, \$2.

*C.D.&F.R. 381. *THE TEACHER AS COUNSELOR*. (U,G by permission) 2 hours credit. M W 2-4:30. Acting Assistant Professor FELDMAN.

A survey will be made of those theories and methods which are most applicable to the teacher's role as both individual and group counselor. Teaching methods will include lectures, discussions, readings, films, case illustrations, and demonstrations. Fee, \$2.

C.D.&F.R. 406. *METHODS OF RESEARCH*. (G) 2 hours credit. T Th 2-4:30. Associate Professor DEVEREUX.

A seminar which will review the principal theories and methods relevant to research in child development and family relationships.

C.D.&F.R. 407. *INDIVIDUAL RESEARCH IN CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS*. (G) 1 to 6 hours credit. Registration by permission of the instructor; hours by arrangement. Professor WARING and members of the staff.

This is planned for students who are ready to undertake their own research and theses.

*C.D.&F.R. 462. *FAMILY SYSTEM AND SOCIAL STANDARDS*. (G; U by permission) 2 hours credit. M T W Th F 11. Associate Professor DEVEREUX.

A sociological analysis of the structure and function of family systems with particular reference to relationships with (a) the broader social structures of which they form a part, and (b) individual personality structure. Although particular emphasis will be upon modern American families, some use will be made of material relating to families in other societies. Fee, \$2.

NURSERY SCHOOL LABORATORY. The Nursery School laboratory will operate to provide observation facilities for department courses. There will be one group of children during the morning hours. The age range will be two-and-a-half to four years, and the number of children will be limited to twelve.

WORKSHOPS IN CHILD DEVELOPMENT AND FAMILY RELATIONSHIPS

C.D.&F.R. 340u. *CARE OF YOUNG CHILDREN IN NEW YORK STATE MIGRANT CAMPS*. Presession, June 13-26. 2 hours credit. Limited to 15 students. Mrs. OWEN.

An intensive study of the problems relevant to the group care of children of migrant camp families. Emphasis will be placed upon the development of a program of child care and guidance to meet the special conditions. Students will be helped to deepen their understanding of the home conditions of migrant families and of the growth and development of young children. Tuition, \$30.

Those interested should apply to Miss Frances McNight, Box 86, Homer, New York, by May 16, 1951. Students will then be notified of their acceptance.

C.D.&F.R. 341u. *CREATIVE DRAMATICS FOR CHILDREN*. July 2-14. 2 hours credit. M T W Th F 9-12 lecture, laboratory with children, discussions; 1-3:30 laboratory with students, summary and discussion; Saturday 9-12 lecture and summary. Limited to 20 students. Miss SHARON.

A workshop to be considered as orientation to the field of drama for children. Creative dramatics will be considered as a means of approaching drama for children in the schoolroom, community, and Children's Theatre, with emphasis on the creative process in child development. Improvisation, music, sound, and stage properties will be used to develop observation, to evoke emotional reactions, and to stimulate imagination. Two laboratories will be provided in the workshop sessions, one with children and one with students. Tuition, \$30.

For further information write to the Department of Child Development and Family Relationships, College of Home Economics, Cornell University, Ithaca, New York.

ECONOMICS OF THE HOUSEHOLD AND HOUSEHOLD MANAGEMENT

*Ec.Hs. 310. *MANAGEMENT IN FAMILY LIVING*. (G) 2 hours credit. Discussion, group projects, and field trips, T Th 2-5. Assistant Professor COUSENS.

A study of the ways in which different families manage with their available resources to attain their purposes. An opportunity to work with family members in their homes on a solution of some of their management problems. Simplification of work as one means of managing. Demonstrations, motion pictures, slides, photographs, and work centers set up in the laboratory. Opportunity for preparing illustrative material. One all-day tour, time to be arranged. Fee, \$6.

*Ec.Hs. 330. *MANAGEMENT IN RELATION TO PERSONAL FINANCES*. (G) 2 hours credit. M T W Th F 8. Associate Professor AIKIN.

The management procedure applied to individual and family problems involving finances. The influence of economic conditions, as well as personal circumstances, on one's financial situation. The effect of standards of living on the amount spent. Problems connected with estimating future expenditures. Considerations in developing a savings program and in purchasing insurance. The nature of investments in real estate and government and corporate securities. Advantages and disadvantages in the use of credit; variations among credit agencies. Problems in arranging for transfer of property to heirs. Various types of records helpful in managing. Fee, \$2.

Ec.Hs. 403. *SPECIAL PROBLEMS IN ECONOMICS OF THE HOUSEHOLD AND HOUSEHOLD MANAGEMENT*. (G) Credit and hours to be arranged. Registration by permission. Staff of the Department.

For graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge for independent, advanced work.

Ec.Hs. 407. *THESIS AND RESEARCH IN ECONOMICS OF THE HOUSEHOLD AND HOUSEHOLD MANAGEMENT.* (G) Credit and hours to be arranged. Registration with permission of the instructor. Staff of the Department.

*Ec.Hs. 420. *HOME PROCESSES AND EQUIPMENT.* (G) 2 hours credit. M W F 2-4:30. Professor WILLIAMSON.

Study of the processes and equipment used in the care of the home, including ways of working that will reduce the effort required; laundry problems, including hard water and softening of water, detergents, other laundry supplies, methods and equipment for washing and ironing, commercial and self-service laundries; electricity and electrical equipment; nature of cleaning actions and equipment suitable for different soils and surfaces; controlling odors and correcting dryness or dampness. Selection and use of household equipment in school situations. The course provides background information for home economics teachers, extension workers, and advisers in home management houses. Fee, \$3.

*Ec.Hs. 430. *ECONOMIC CONDITIONS IN RELATION TO THE WELFARE OF FAMILIES.* (G) 2 hours credit. M T W Th F 12. Associate Professor AIKIN.

The relationship between the economic welfare of families and the total amount of goods and services produced, the distribution of income, and the general level of prices. Influence of such institutions as specialization, industrialization, money, marketing, and taxation. The interrelationship between outside economic conditions and economic activities in the home. Fee, \$1.

SUPERVISION OF HOME MANAGEMENT RESIDENT EXPERIENCE. (See Home Economics Education, page 32.)

FOOD AND NUTRITION

*F&Ntr. 240. *ADVANCED FOODS.* (U,G) 2 hours credit. Prerequisite, a course in food preparation satisfactory to the instructor. Discussions T Th 2, Room 301. Laboratories M W F 1:30-4, Room 352. Associate Professor FOSTER.

Aim of the course is to emphasize the artistic side of food production. Laboratory fee, \$15.

*F&Ntr. 312. *SCIENCE RELATED TO FOOD.* (U,G) 2 hours credit. Prerequisite, courses in chemistry and in food preparation satisfactory to the instructor. Discussions and laboratories M T W Th F 11-1. Rooms 356 and 301. Associate Professor BRIANT.

The properties of foams and emulsions of importance in food preparation; baking powders, flours and fats in baked products. Laboratory work will include study of methods of preparation and proportion of ingredients and their effects on quality of such products as whipped cream, mayonnaise, meringues, and souffles; cookies and pastries; quick breads, yeast breads, and shortened and unshortened cakes. Laboratory fee, \$10.

*F&Ntr. 328. *RECENT FINDINGS IN NUTRITION.* (U,G) 2 hours credit. Prerequisite, a college course in nutrition. The course is not open to students who have had advanced courses in nutrition within the past two years. Lectures and discussions M T W Th F 9. Room 339. Professor STEININGER.

Planned for students who wish to bring their information about nutrition up-to-date. The topics studied will be those which are related to practical problems in human nutrition. Emphasis on energy metabolism and vitamins. Fee, \$1.

*F&Ntr. 350. *PROBLEMS IN TEACHING FOOD AND NUTRITION.* (G) 2 hours credit. Prerequisite, experience in teaching or extension work and permission

of the instructor. Discussions M T W Th F 8. Room 301. Associate Professor DUDGEON.

Discussion of problems which arise in teaching food and nutrition to lay groups. The choice of subject matter, illustrative material, and methods of presentation for various adult groups will be discussed. Fee, \$1.

*F.&Ntr. 402. *READINGS IN NUTRITION*. (G) 2 hours credit. Registration by permission of the instructor. Students are expected to have some background in physiology, organic chemistry or biochemistry, and nutrition. Discussions, M T W Th F 10. Room 301. Professor HAUCK.

A critical review of current literature, emphasizing the experimental data on which the principles of human nutrition are based. Students participate in the choice of subjects for study. Fee, \$2.

F.&Ntr. 403. *SPECIAL PROBLEMS FOR GRADUATE STUDENTS*. (G) Credit and hours to be arranged. Registration with permission of the instructor. Professor HAUCK and Department staff.

For graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge for independent, advanced work.

F.&Ntr. 407. *THESIS AND RESEARCH*. (G) Credit and hours to be arranged. Registration with permission of the instructor. Professor STEININGER and Department staff.

HOME ECONOMICS ADMINISTRATION

H.Apt. 306. *HOMEMAKING APARTMENTS, RESIDENCE COURSE*. (U,G) 4 hours credit. The instructor must be consulted before registering. Application should be made in writing by May 15, 1951. Registration limited to six students in each group. Students registering for the course may carry one 2-credit course in addition. Prerequisite, one course each in food preparation and child development. Assistant Professor CRAWFORD.

In this course the student lives in one of the homemaking apartments in the Home Economics building much as she would live in her own home. There will be six students, an adviser, and probably a baby under a year old. The group plans for its own operation. Each week the student assumes new home responsibilities. Students learn acceptable standards, how to dovetail the jobs in a home, how to entertain easily and graciously. It is possible to put into practice much of what has been learned in homemaking classes about food preparation, keeping accounts, cleaning house, laundering, child care, and so forth. The students usually plan to eat out several times a week. They also entertain their own friends at the apartments.

Charge for room and board in the apartments will be \$110 for the Summer Session. Approximately \$20 in addition will be needed for outside meals.

HOME ECONOMICS EDUCATION

See Education, page 32.

HOUSING AND DESIGN

*H.&Des. 302. *COLOR AND DESIGN*. (U,G) 2 hours credit. M T W Th F 8-10. Professor TRUE.

A basic course in the study of the elements and principles of design and color, with laboratory problems and experiments, and assigned reading. Laboratory fee, \$10.

*H.&Des. 310. *STUDY OF ROOMS, SELECTION AND ARRANGEMENT OF FURNISHINGS*. (U,G) 2 hours credit. No prerequisite, but previous study of color and design is desirable. M T W Th F 10-12. Associate Professor WILKERSON.

Functional arrangement and design of furnishings. The selection and arrangement of furnishings in relation to family needs; the relation of furnishings to the architectural features of rooms. Laboratory fee, \$10.

*H.&Des. 340. *HOUSE PLANNING*. (U,G) 2 hours credit. M T W Th F 8-10. Assistant Professor BAIRD.

An introductory course in space arrangement, incorporating house, landscape, and neighborhood. Drafting room work (consisting of plan and model studies of house, landscape, and neighborhood), lectures and discussions, local trips, outside reading. Laboratory fee, \$10.

*H.&Des. 341. *ADVANCED HOUSE PLANNING*. (U,G) 2 hours credit. Prerequisite 340 or its equivalent. M T W Th F 2-4. Assistant Professor BAIRD.

Development of house plan details. A $\frac{1}{8}$ " scale planning of a house, executed during the first part of the term, will be followed by $\frac{1}{4}$ " and $\frac{1}{2}$ " scale studies and details of the principal rooms, fireplace, stairway, cabinets, and so forth. Laboratory fee, \$10.

*H.&Des. 347. *INTRODUCTION TO HOUSING*. (U,G) 2 hours credit. No prerequisite. M T W Th F 12-1. Associate Professor MONTGOMERY.

An introductory course in housing: inventory, needs, planning, design, construction, costs and finance, social and physical environments, current trends, and research in relation to the family to be housed. Laboratory fee, \$10.

H.&Des. 403. *SPECIAL PROBLEMS FOR GRADUATE STUDENTS*. (G) Credit and hours to be arranged. Department staff.

For graduate students recommended by their chairmen and approved by the head of the department and the instructor in charge for independent, advanced work.

H.&Des. 407. *THESIS AND RESEARCH*. (G) Credit to be arranged. Registration with permission of instructor. Professor TRUE, Associate Professors MONTGOMERY and WILKERSON.

H.&Des. 410. *RESEARCH METHODS IN HOUSING AND DESIGN*. (G) 2 hours credit. Recommended to upperclassmen having a special interest in housing and design and to graduate minors in the department. This course, or the equivalent, is required of housing and design graduate majors. M T W Th F 3-4. Associate Professor MONTGOMERY.

Basic aspects of research methods as related to problems in housing and design. Topics treated: the role of research in housing and design; use of library materials; steps in setting up research problems; ways of analyzing data; and techniques of presenting findings. Students have opportunity for individual consultation with the instructor.

INSTITUTIONAL MANAGEMENT

*I.Mgt. 230. *QUANTITY FOOD PREPARATION*. (U,G) 2 hours credit. Prerequisite, courses in food preparation and nutrition. Lectures T Th 2-3; laboratory M W F 2-5:30. Associate Professor CUTLAR.

Lectures and discussions include underlying principles and basic procedures in quantity food preparation in relation to quality, quantity, and cost control. The findings and applications of research in these areas will be reviewed.

Laboratories give practice in food production, the use of institution equipment, and recipe costing in each department of the Home Economics Cafeteria Kitchen where food is prepared for approximately 2,000 persons daily. Fee, \$12.

I.Mgt. 403. *SPECIAL PROBLEMS IN INSTITUTION MANAGEMENT*. (G) Credit and hours to be arranged. Registration by permission of Professor HARRIS or Associate Professor RIPLEY.

For graduate students recommended by their chairman and approved by the department head and the instructor in charge for independent, advanced work. Cost of materials determined by the problem.

*I.Mgt. 420. *PROBLEMS OF FOOD SERVICE ORGANIZATION AND ADMINISTRATION*. (G) 3 hours credit. Lecture and discussion M T W Th F 10-12 and T or Th 3-4:30. Associate Professor RIPLEY, Associate Professor PROUD, and other staff members.

Prerequisite, managerial experience and/or a course in food service organization and administration.

A consideration of administrative functions and of organizational procedures which make for efficiency in administration. Topics to be discussed include organization of work and workers; purchasing procedures, including writing of specifications; various aspects of financial management and control of costs; principles of work simplification with application to some specific work processes in the institution kitchen; and other problems of interest to the group as time permits.

Observations and visits to various food service operations will be scheduled. Fee, \$2.

TEXTILES AND CLOTHING

*T.&Clo. 130. *TEXTILES: CLOTHING FABRICS*. (G,U by permission) 2 hours credit. M T W Th F 11-1. Associate Professor WERDEN.

A study of textile fibers and their identification through laboratory tests; technical information and laboratory practice to develop good buying habits and to encourage appropriate use and care of fabrics and clothing; consideration of some of the factors involved in the production and consumption of textiles; the study of clothing fabrics in the present-day market as a means of developing appreciation for good textile design and for the various qualities of fabrics available. Estimated cost of materials, \$3. Fee, \$5.

*T.&Clo. 200. *DRAPING, FITTING, AND CONSTRUCTION*. (G,U by permission) 2 hours credit. Prerequisite, professional experience or course work in the area of clothing design and construction acceptable to the instructor. M T W Th F 2-4. Associate Professor HUMPHREY.

Laboratory problems will include practice in developing designs through draping, and the draping of two garments, one of which is carried through to completion. Materials to be provided by the students at an estimated cost of \$15 to \$25. Fee, \$5.

*T.&Clo. 320. *PROBLEMS IN BUYING CLOTHING*. (G,U by permission) 2 hours credit. Lecture and laboratory M T W Th F 2-4. Associate Professor WERDEN.

This course offers students opportunity to study the problems involved in acquiring and maintaining a satisfactory wardrobe and to obtain more understanding and skill in buying garments for different age groups.

The group work is supplemented by reference reading, building a bibliography of sources of information, and the working through of special problems selected by students to meet individual needs. (If field trips are involved, students will be responsible for transportation and living expenses.) Laboratory fee, \$5.

*T.&Clo. 335. *DRESSMAKING*. (G,U by permission) 2 hours credit. Prerequisite, course work in elementary construction acceptable to the instructor. M T W Th F 9-11. Associate Professor HUMPHREY.

A workshop type of course concerned with the dressmaking problems which enter into the selection and construction of clothes for different age groups, and for the individual. Materials to be provided by the students at an estimated cost of \$10 to \$15. Fee, \$5.

T.&Clo. 403. *SPECIAL PROBLEMS IN TEXTILES AND CLOTHING.* (G) Credit and hours as arranged. Registration by permission of Professor BLACKMORE.

For graduate students recommended by their chairman and approved by the department head. Students to assume any expense involved unless otherwise previously arranged.

T.&Clo. 407. *THESES AND RESEARCH.* (G) Credit and hours as arranged. Registration by permission of Professor BLACKMORE.

HOTEL ADMINISTRATION

In 1922 Cornell University established, with the cooperation and financial assistance of the American Hotel Association, a four-year course in Hotel Administration for high school graduates desiring to enter the administrative departments of the hotel business. Many hotel proprietors and managers who have been unable to take a four-year university course have asked for shorter courses with less formal entrance requirements.

To meet this demand, much of the Summer Session work in Hotel Administration is given in unit courses, one to three weeks in length. A circular giving full details of these courses has been issued and will be sent upon request. For this circular, for other information about the work in this department, and for admission to these courses, address Professor H. B. Meek, Statler Hall, Cornell University, Ithaca, New York.

INDUSTRIAL AND LABOR RELATIONS

I.&L.R. 260. *PERSONNEL ADMINISTRATION.* (U,G) 2 hours credit. M T W Th F 8. Associate Professor BROPHY.

A study of ways of working with employees, as individuals and in groups, to ensure the best use of individual capacities, the greatest amount of personal and group satisfaction, and maximum service to the employing organization. Consideration is given to developing and organizing personnel administration and to factors influencing the administration and appraisal of personnel functions, including recruitment, selection, training, and communications, job evaluation, compensation, performance rating, transfer, promotion, separation, employee services, health and safety, records and reports, and research.

I.&L.R. 293. *SURVEY OF INDUSTRIAL AND LABOR RELATIONS.* (U) 2 hours credit. M T W Th F 8. Associate Professor FERGUSON.

A survey for students in other divisions of the University or from other institutions. The course will include an analysis of the major problems in industrial and labor relations; labor union history, organization, and operation; labor market analysis and employment practices; industrial and labor legislation and social security; personnel management and human relations in industry; collective bargaining, mediation, and arbitration; the rights and responsibilities of employers and employees; the major governmental agencies concerned with industrial and labor relations.

I.&L.R. 294. *PUBLIC ISSUES IN INDUSTRIAL AND LABOR RELATIONS.* (U,G) 2 hours credit. M T W Th F 9. Professor TOLLES.

A limited number of current issues will be selected as a means of analyzing such basic social problems as the full employment of labor and resources, instability and security, freedom and control, and minimum levels of economic welfare. Designed for students who are not majoring in industrial and labor relations.

I.&L.R. 350. *LABOR HISTORY*. (U,G) 2 hours credit. M T W Th F 11. Professor TOLLES.

The historical development of American labor movements before the Civil War is surveyed generally. Special emphasis is placed upon the rise of organized labor movements in the United States since 1865. Problems which faced organizations such as the Knights of Labor, the AFL, and the CIO are discussed in detail, along with various theories of the labor movement which help to explain the historical developments which have occurred. More than one-half of the course is devoted to a study of the history and objectives of representative international unions within the AFL and the CIO. The problems of unorganized labor and the independent unions are also analyzed.

I.&L.R. 392. *AUDIO-VISUAL METHODS*. (2 sections) (U,G) 2 hours credit. M T W Th F 9 and 11. Assistant Professor JEHRING.

A discussion of the effectiveness of audio-visual methods as a means of communication. Training in the preparation and proper use of audio-visual materials and the methods of operation of various kinds of audio-visual devices. Stress is placed on the contributions of audio-visual methods in solving problems of mass communication.

I.&L.R. 470. *SOCIAL SECURITY*. (U,G) 2 hours credit. M T W Th F 8. Assistant Professor MACINTYRE.

An historical and analytical study of the philosophy, legislative history, administration, and economic and social effects of social security programs as protection against the risks of industrial accident, temporary and permanent disability, illness, old age, and unemployment. Proposals for modifying or extending American social security legislation will be examined critically. Attention will also be given to private and voluntary efforts to provide security, with special emphasis upon the problems of integrating public and private programs.

I.&L.R. 493. *SOURCES AND MATERIALS FOR TEACHING SOCIAL STUDIES*. (U,G) 2 hours credit M T W Th F 9. Miss BARTON.

This course is specifically designed for social studies teachers interested in the development of course material in the field of industrial and labor relations. Coverage of the course will include techniques, materials, sources of literature in the fields of labor-management relations, labor economics, human relations, personnel, and related fields. Special consideration will be given to the sources and uses of audio-visual aids in social studies. The course will also include discussions by outside speakers from labor, management, and government groups.

I.&L.R. 510. *STATISTICS*. (G) 3 hours credit. Lectures M T W Th F 8. Laboratory sessions M W 1-3. Associate Professor MCCARTHY.

For graduate students who have not taken a course in statistics or who wish to take a refresher course. Emphasis will be placed on a discussion of the technical aspects of statistical analysis and on initiative in selecting and applying statistical methods to research problems. The subjects ordinarily covered will include analysis of frequency distributions, time series (including index numbers), regression and correlation analysis, and selected topics from the area of statistical inference.

I.&L.R. 520. *HUMAN RELATIONS*. (G) 2 hours credit. M T W Th F 9. Professor SMITH.

For graduate students who have had little or no formal training in human relations. The course will be intensive and will review the principal areas of human relations in industry.

I&L.R. 540. *LABOR MARKET ECONOMICS*. (G) 2 hours credit. M T W Th F 10. Associate Professor FERGUSON.

A comprehensive treatment of the economic aspects of the employment of labor. Applications of theory, history, and recent findings to the analysis of the demand and supply of labor under defined conditions. Employment, wages, and employee benefits in relation to the operation of industrial enterprise and of the economy as a whole. Analysis of some leading problems of economic policy affecting labor.

I&L.R. 560. *PERSONNEL ADMINISTRATION*. (G) 2 hours credit. M T W Th F 11. Professor BROOKS.

A basic graduate course covering the major areas of personnel administration. Emphasis will be placed on the staff and service functions including relationship of personnel to other operations; functions of the personnel administrator; organization of the personnel functions; personnel policies, communication; recruitment, selection, and placement; promotion and transfer; job analysis; service ratings; training; hours and wages; morale, safety, and health; employee services; and personnel research. Extensive readings from the literature in the field, problems, case studies, and discussions.

I&L.R. 612. *SURVEY RESEARCH METHODS*. (G) 2 hours credit. M T W Th F 10. Associate Professor McCARNEY.

A broad treatment of the methods used in designing, administering, and analyzing the results of sample surveys in the social studies. Some of the topics to be covered are the role of surveys in a research program, the design and administration of questionnaires, simple techniques for the selection of samples, the processing of survey data by means of punched card equipment and the interpretation of results.

INDUSTRIAL EDUCATION

See Education, page 33

LANGUAGES AND LITERATURE

CLASSICS

Class. 1. *ANCIENT LITERATURE AND MODERN LITERATURE*. (U,G) 2 hours credit. M T W Th F 12. Professor HUTTON.

The influence of selected authors, literary types, and ideas; transformation of themes in changing environments; modern literary movements and the Classics; literature and society in antiquity and today. All readings will be in English translation.

Class. 2. *LATIN FOR TEACHERS*. (U,G) 2 hours credit. M T W Th F 11. Professor HUTTON.

Readings in Latin of selected texts to round out a knowledge of the literature; writing of Latin; discussion of the special problems of the Latin teacher.

Class. 3. *THESES AND INFORMAL WORK*. (G) Credit by arrangement; total credit for thesis may not exceed six hours. Professor HUTTON.

FRENCH LITERATURE

Rom.L. 331. *THE EIGHTEENTH-CENTURY FRENCH COMEDY*. (U,G) 2 hours credit. M T W Th F 11. Professor DALE.

A detailed study of representative French comedies, their dramatic and artistic qualities, and their relation to eighteenth-century French life.

Rom.L. 332. *LITERARY ANALYSIS*. (U,G) 2 hours credit. M T W Th F 10. Professor DALE.

An analysis, based on the explication de texte method, will be made of Voltaire's masterpiece, *Candide*.

LANGUAGES

Professors J M. COWAN, W. G. MOULTON; Associate Professors F. B. AGARD, R. A. HALL, JR., and C. F. HOCKETT; Assistant Professors J. R. FRITH and G. H. FAIRBANKS.

The system of course numbering is the same for all languages offered by the Division. Courses 101 and 102 in a given language aim at bringing the student to a level of achievement sufficient to enable him to pass the Proficiency Examination and thus fulfill the language requirement for graduation. These courses are the equivalent of Courses 101 and 102 offered in the regular academic year.

Course 151 is designed to assist graduate students to prepare themselves for the reading examinations required by the Graduate School. This course is to be considered as a full-time program by the student, and the equivalent of six hours of undergraduate credit will be allowed. In actual practice those registered in 151 will participate in the oral drill as set up for 101, but they will be given special reading and outside assignments consonant with their needs and abilities. If fewer than eight students register for this course, the instruction given will be identical with that in 101.

All courses constitute a full academic program of six credit hours and consist of twenty hours of instruction each week at periods to be assigned. Registration for these courses will be closed when the capacity of the sections has been reached.

Frnc. 101. *FRENCH*. (U) 6 hours credit. Assistant Professor FRITH and assistants.

Frnc. 102. *FRENCH*. (U) 6 hours credit. Prerequisite, French 101 or equivalent. Assistant Professor FRITH and assistants.

Frnc. 151. *FRENCH*. For graduate students acquiring reading proficiency; 6 hours credit. Assistant Professor FRITH and assistants.

Germ. 101 *GERMAN*. (U) 6 hours credit. Professor MOULTON and assistants.

Germ. 102. *GERMAN*. (U) 6 hours credit. Prerequisite, German 101 or equivalent. Professor MOULTON and assistants.

Germ. 151. *GERMAN*. For graduate students acquiring reading proficiency; 6 hours credit. Professor MOULTON and assistants.

Span. 101. *SPANISH*. (U) 6 hours credit. Assistant Professor HARRIS and assistants.

Span. 102. *SPANISH*. (U) 6 hours credit. Prerequisite, Spanish 101 or equivalent. Assistant Professor HARRIS and assistants.

PHYSICAL SCIENCES AND MATHEMATICS

ASTRONOMY

Astro. 20. *ASTRONOMY — THE PHYSICAL UNIVERSE*. (U,G) 2 hours credit. Lectures M T W Th F 9. Associate Professor SHAW.

Survey of the universe known to man including planets, comets, meteors, the sun, stars, our galaxy, external galaxies, and the expanding universe. Telescopes and

spectroscopy. Observational work at Fuertes Observatory. Emphasis on demonstration techniques and materials. Influence of astronomical knowledge on human thought.

CHEMISTRY

*Chem. 105-106. *GENERAL CHEMISTRY*. (U) 6 hours credit. Lectures and recitations, M T W Th F 8-10. Laboratory, M T W Th F 10-1.

For those students who intend to take more chemistry, this course serves as a prerequisite to the more advanced courses in chemistry. Secondary school chemistry is not a prerequisite. The course may be elected by students who do not intend to take more chemistry.

Emphasis on the more important chemical principles and facts, on the scientific method, and on the relation of chemistry to the other fields of knowledge and to everyday life. Laboratory fee, \$10.

*Chem. 201. *INTRODUCTORY QUALITATIVE ANALYSIS* (short course) (U,G) 4 hours credit. Prerequisite, General Chemistry. Lectures, M T W Th F 8. Laboratory, three hours daily except Saturday between 9 and 1. Professor BAUER and assistant.

A study of the properties and reactions of the common elements and acid radicals, and their detection in various solutions. Laboratory fee, \$15.

Chem. 205. *INTRODUCTORY QUALITATIVE ANALYSIS*. (U,G) 3 hours credit. Prerequisite, General Chemistry. Chemistry 207 must be taken with 205. Lectures, M T W Th F 8. Recitations, T Th 12. Professor BAUER.

A study of the application of the theories of general chemistry to the systematic separation and detection of the common elements and acid radicals.

*Chem. 207. *INTRODUCTORY QUALITATIVE LABORATORY*. (U,G) 3 hours credit. Prerequisite, General Chemistry. Must be taken with Chemistry 205. Laboratory, M W F 9-1 and T Th 9-12. Professor BAUER and assistant.

A study of the properties and reactions of the common elements and acid radicals, and their detection in various solutions. Laboratory fee, \$15.

*Chem. 215. *INTRODUCTORY QUANTITATIVE ANALYSIS*. (short course) (U,G) 4 hours credit. Prerequisite, Chemistry 201 or 205 and 207. Lectures, M T W Th F 8. Laboratory, three hours daily except Saturday between 9 and 1. Professor NICHOLS and assistant.

A study of the fundamental principles of gravimetric and volumetric analysis, and the analysis of various substances by these methods. Laboratory fee, \$15.

Chem. 220. *INTRODUCTORY QUANTITATIVE ANALYSIS*. (U,G) 3 hours credit. Prerequisite, Chemistry 201 or 205 and 207. Chemistry 222 must be taken with 220. Lectures, M T W Th F 8. Recitations, T Th 9. Professor NICHOLS.

A study of the fundamental principles of gravimetric and volumetric analysis with practice in stoichiometry.

*Chem. 222. *INTRODUCTORY QUANTITATIVE LABORATORY*. (U,G) 3 hours credit. Prerequisite, Chemistry 201 or 205 and 207. Must be taken with Chemistry 220. Laboratory, M W F 9-1 and T Th 10-1. Professor NICHOLS and assistant.

Laboratory practice in the preparation and standardization of various volumetric solutions and the analysis of a variety of substances by volumetric and gravimetric methods. Laboratory fee, \$15.

Chem. 303. *ELEMENTARY ORGANIC CHEMISTRY*. (U,G) 4 hours credit. Prerequisite, General Chemistry. Qualitative Analysis is desirable but not required.

Chemistry 305 must be taken with Chemistry 303. Lectures, M T W Th F 8-10. Assistant Professor DeTar.

A study of aliphatic and aromatic organic compounds, their occurrence, relations, and uses.

*Chem. 305. *ELEMENTARY ORGANIC LABORATORY*. (U,G) 2 hours credit. Prerequisite, General Chemistry; Qualitative Analysis is desirable but not required. Must be taken with Chemistry 303. Laboratory, M T W Th F 10-12:30. Assistant Professor DeTar and assistant.

Laboratory experiments on the preparation and reactions of typical organic compounds. Laboratory fee, \$15.

*Chem. 306. *ORGANIC LABORATORY*. (U,G) 2 hours credit. Prerequisite, Chemistry 303 and 305. Laboratory, M T W Th F 10-12:30. Assistant Professor DeTar and assistant.

A continuation of Chemistry 305. Laboratory fee, \$15.

Chem. 307. *INTRODUCTORY ORGANIC CHEMISTRY*. (U,G) 3 hours credit. Prerequisite, General Chemistry; Qualitative Analysis is desirable but not required. Lectures and written reviews, M T W Th F 8, and also at 9 during the first three weeks. Assistant Professor DeTar.

A study of the more important compounds of carbon, their occurrence, methods of preparation, relations, and uses. The work covered is equivalent only to the first half of the year course; students who wish a complete course should register for Chemistry 303 and 305.

*Chem. 311. *INTRODUCTORY ORGANIC LABORATORY*. (U,G) 3 hours credit. Prerequisite or parallel course, Chemistry 307. Laboratory experiments and oral reviews, M T W Th F 10-12:30. Assistant Professor DeTar and assistant.

The student prepares typical compounds of carbon and familiarizes himself with their properties, reactions, and relations. Laboratory fee, \$20.

GEOLOGY

Geol. 901. *SUMMER FIELD SCHOOL IN GEOLOGY*. (U,G) 6 hours credit. Professor NEVIN. June 11-July 21.

Registration limited to men. For full information write to the Department of Geology and Geography, McGraw Hall.

MATHEMATICS

Math. 161. *ANALYTIC GEOMETRY AND CALCULUS*. (U) 3 hours credit. Prerequisite, Trigonometry. M T W Th F S 10. Mr. IWANOWSKI.

Math. 162. *ANALYTIC GEOMETRY AND CALCULUS*. (U) 3 hours credit. Prerequisite, Mathematics 161 or the equivalent. M T W Th F S 10 or 11. Associate Professor FUCHS, Mr. BLACKMAN, Mr. IWANOWSKI.

Math. 163. *ANALYTIC GEOMETRY AND CALCULUS*. (U) 3 hours credit. Prerequisite, Mathematics 162. M T W Th F S 10. Mr. BLACKMAN.

Math. 201. *DIFFERENTIAL EQUATIONS*. (U,G) 3 hours credit. Prerequisite, Mathematics 163 or the equivalent. M T W Th F S 11. Assistant Professor YOOD.

Math. 221. *MATHEMATICS FOR SECONDARY SCHOOL TEACHERS*. (U,G) 3 hours credit. M T W Th F S 9. Associate Professor FUCHS.

This course will treat selected topics in the mathematics taught in the secondary schools with a view to contributing to the enrichment of such teaching and giving a clearer understanding of the concepts and processes involved.

Math. 401. *PROJECTIVE GEOMETRY*. (U,G) 3 hours credit. Prerequisite, Mathematics 172, Calculus. M T W Th F S 11. Assistant Professor HUNT.
A first course in projective geometry.

METEOROLOGY

*Mety. 1. *BASIC PRINCIPLES OF METEOROLOGY*. (U,G) 3 hours credit. Prerequisite, one year of high school physics or Physics 103 or equivalent. Lectures, M T W Th F 9. Laboratory, M W 10-12:30 or T Th 2-4:30. Assistant Professor WIDGER and assistants.

Simplified treatment of the physical processes of the atmosphere that produce commonly observed weather phenomena, followed by discussions of condensation and precipitation, winds, the general and secondary circulations, air masses, fronts, and elementary climatology and microclimatology. In the laboratory, emphasis is on common meteorological instruments and the weather map. The course is designed both for those who wish a single survey course in meteorology and those who wish a foundation for further study in the field. Laboratory fee, \$2.

Mety. 212. *SPECIAL TOPICS IN METEOROLOGY*. (U,G) 1 or more hours credit. Lectures or discussions by arrangement. Assistant Professor WIDGER.

Special work in meteorology and climatology may be elected by qualified students with permission of the instructor. Possible topics of interest might include General Climatology, Methods of Treating Climatic Data, or Microclimatology.

PHYSICS

*Phys. 103. *INTRODUCTORY EXPERIMENTAL PHYSICS*. (U,G) 3 hours credit. Demonstration lectures, M T W 8. Recitations, M T W 9. Three laboratory periods, Th F 2-4 and one as arranged. Associate Professor NEWHALL.

Mechanics, heat, and sound. Text: Howe's *Introduction to Physics*. Laboratory fee, \$5.

*Phys. 104. *INTRODUCTORY EXPERIMENTAL PHYSICS*. (U,G) 3 hours credit. This course must be accompanied by Physics 103 or preceded by a study of mechanics in either high school or college physics. Demonstration lectures, Th F S 8. Recitations, Th F S 9. Three laboratory periods, T W 2-4 and one as arranged. Associate Professor NEWHALL.

Electricity and light. Text: Howe's *Introduction to Physics*. Laboratory fee, \$5.

Phys. 115. *MECHANICS*. (U) 3 hours credit. A course for students of engineering with a deficiency in physics. M T W Th F 8 and M 2-4. Associate Professor NEWHALL.

Text: Sears-Zemansky, *College Physics*, Part I.

Phys. 117. *ELECTRICITY AND MAGNETISM*. (U,G) 3 hours credit. Prerequisites, Physics 115 and calculus or simultaneous registration in Mathematics 163. Lectures T Th 9. Recitation M T W Th F 8. Laboratory T Th F 2-4:30. Associate Professor TOMBOULIAN.

This course constitutes the third term of a four-term sequence in General Physics required of students of engineering. It includes all the fundamentals of electricity and magnetism of the sequence. Text: Sears, *Principles of Physics*. Vol. II: *Electricity and Magnetism*.

Phys. 211. *INTRODUCTION TO CONTEMPORARY PHYSICS*. (U,G) 3 hours credit. M T W Th F 10. Prerequisite, one year of college physics. Designed primarily for secondary school teachers and others whose main interest lies outside the field of physics. Associate Professors NEWHALL and TOMBOULIAN.

A survey course covering selected material from the field of atomic and nuclear physics presented from the experimental point of view. Elementary charged particles; mass spectroscopy; the electromagnetic spectrum; the quantum theory of radiation and spectra; properties of nuclei; nuclear transformations; cosmic rays. Text: Oldenberg, *Introduction to Atomic Physics*.

Phys. 225. *ELECTRICITY AND MAGNETISM*. (U,G) 3 hours credit. Prerequisite, Physics 117 or 206. Lectures, M T W Th F S 8 and S 9. Associate Professor TOMBOULIAN.

An introduction to the theory of the electromagnetic field. Static and dynamic fields, dielectrics and properties of magnetic materials, the field equations and electromagnetic waves in free space, the Poynting vector. Text: Harnwell, *Principles of Electricity and Electromagnetism*.

PSYCHOLOGY AND PHILOSOPHY

PSYCHOLOGY

Psych. 101. *INTRODUCTION TO PSYCHOLOGY*. (U) 2 hours credit. M T W Th F 9. Assistant Professor SMITH.

An introduction to the scientific study of behavior and experience, covering such topics as perception, motivation, emotion, learning, the higher thought processes, personality, and individual differences. This course is prerequisite to further work in the Department.

Psych. 106. *PSYCHOLOGY IN BUSINESS AND INDUSTRY*. (U) 2 hours credit. Prerequisite, Psychology 101 or equivalent. M T W Th F 10. Assistant Professor SMITH.

Applications of psychological methods in worker selection and training, conditions of efficient production, motivation in industrial performance, accident control, psychological aspects of marketing.

Psych. 107. *PSYCHOLOGICAL BASIS OF SOCIAL BEHAVIOR*. (U) 2 hours credit. Prerequisite, Psychology 101 or equivalent. M T W Th F 12. Professor BRONFENBRENNER.

An introduction to the psychological study of social behavior.

Psych. 216. *PSYCHOLOGY OF LEARNING*. (U,G) 2 hours credit. Prerequisite, six hours of psychology and elementary statistics. M T W Th F 11. Assistant Professor MONTGOMERY.

A survey of the experimental literature dealing with the fundamental processes and conditions of learning and thinking.

Psych. 321. *PERSONALITY THEORY*. (U,G) 2 hours credit. Prerequisite, six hours of psychology. M T W Th F 10. Professor BRONFENBRENNER.

A critical survey of theories of personality structure, function, and development. Concrete implications of theory are examined through the analysis of case studies.

Psych. 351. *PSYCHOLOGICAL TESTS*. (U,G) 3 hours credit. With consent of the instructor, this course may be taken without observations for two hours' credit. M T W Th F 9; observational hours to be arranged. Professor FREEMAN.

Concepts of intelligence; individual and group tests of intelligence; principles underlying their construction and interpretation; use of tests in schools, in the armed services, and in other fields. Lectures, reading, and observations of individual testing.

Psych. 413. *PSYCHOLOGY OF EXCEPTIONAL CHILDREN*. (G;U by permission) 2 hours credit. M T W Th F 11. Professor FREEMAN.

Designed to give a scientific understanding of children who deviate from the usual: the gifted, the feeble-minded, the delinquent, those having special abilities and disabilities, those having personality defects and those having sensory and physical handicaps. Lectures, reading, and case studies. Students who have not had or are not now taking a course in mental measurements may be admitted only with approval of the instructor.

Psych. 485. *CURRENT PSYCHOLOGICAL THEORY*. (U,G) 2 hours credit. T Th 2-4. Prerequisites, at least nine hours of psychology. Assistant Professor MONTGOMERY.

A survey of selected theoretical trends — behavioristic, Freudian, and so forth — in contemporary psychology, with a detailed examination of representative problems as they are approached from these different points of view.

PHILOSOPHY

Phil. 225. *PHILOSOPHY OF DEMOCRACY*. (U) 2 hours credit. Lectures, M T W Th F 9. Professor BURTT.

An examination of the meaning of the democratic idea in relation to its historical background and to the challenging problems that it confronts today.

Phil. 322. *PHILOSOPHY OF RELIGION*. (U,G) 2 hours credit. Prerequisite, junior standing or consent of the instructor. Lectures, M T W Th F 11. Professor BURTT.

Discussions on such fundamental problems as the nature of religion, faith and reason in religion, the reality of God, the nature and destiny of the soul, religion and psychiatry, religion and the social problems of today.

MENTAL HYGIENE

M.Hyg. 1. *MENTAL HYGIENE*. (U,G) 2 hours credit. Lectures M T W Th F 9. Dr. DARLING and Miss McCORMICK.

A general survey course in mental hygiene covering such subjects as individual adjustment, emotional problems, psychosomatic problems, personality growth, emotional maladjustments, mental hospital relationships, community and educational responsibilities, and so forth. One field trip.

M.Hyg. 2. *SPECIAL MENTAL HYGIENE FIELDS*. (G) 2 hours credit. Enrollment limited. Permission of instructor required. Prerequisite, Mental Hygiene 1. Lectures and discussions M T W Th F 11. Dr. DARLING.

An advanced course in mental hygiene problems as related specifically to the various fields of education, religion, personality adjustment, and community life.

SOCIAL SCIENCES

ECONOMICS

Econ. 101. *ELEMENTS OF ECONOMICS*. (U,G) 4 hours credit. M T W Th F 10-12. Mr. LIVINGSTON.

A general introductory survey of the economic system, with special reference to the function of price. This course or its equivalent is prerequisite to all other courses in economics.

Econ. 203. *MONEY AND BANKING*. (U,G) 2 hours credit. Prerequisite, an elementary course in economics. M T W Th F 9. Dr. SIEGELMAN.

Functioning of the monetary and banking system of the United States. Treasury and Federal Reserve policies and problems.

Econ. 340. *COMPARATIVE ECONOMIC SYSTEMS*. (U,G) 2 hours credit. Prerequisite, an elementary course in economics. M T W Th F 10. Professor BERNT.

The main types of social orders, such as capitalism, socialism, and communism, with special emphasis upon their application in various countries of the world.

Econ. 603. *INTERPRETATION OF ECONOMIC NEWS*. (U,G) 2 hours credit. Prerequisite, an elementary course in economics. M T W Th F 11. Professor BERNT.

Day-to-day events as they are reported in the newspapers; an attempt to analyze the economic elements involved in world affairs. Daily reading of a metropolitan newspaper is required.

Econ. 605. *CURRENT ECONOMIC PROBLEMS*. (U,G) 2 hours credit. Prerequisite, an elementary course in economics. M T W Th F 11. Dr. SIEGELMAN.

Consideration of various problems and their solution by a free enterprise system. Special emphasis on problems of inflation and war-induced scarcity; war financing; antidepression policies; prospects for economic growth. A course in money and banking taken previously or concurrently is desirable but not required.

GOVERNMENT

Govt. 101. *AMERICAN NATIONAL GOVERNMENT*. (U,G) 2 hours credit. M T W Th F 8. Associate Professor WHITESEL.

A study of the principles and organization of the national government.

Govt. 213. *CONGRESS*. (U,G) 2 hours credit. M T W Th F 10. Associate Professor WHITESEL.

Problems and practices of the membership, organization, and operation of the national legislature.

HISTORY

Hist. 142. *CONTINENTAL EUROPE IN THE NINETEENTH CENTURY*. (U,G) 2 hours credit. M T W Th F 9. Assistant Professor BYRNES.

A political, intellectual, and social history of Continental Europe from the Napoleonic era to the outbreak of the First World War.

Hist. 451. *THE ORIGINS AND DEVELOPMENT OF THE RUSSIAN REVOLUTION*. (U,G) 2 hours credit. M T W Th F 11. Assistant Professor BYRNES.

A history of Russia since Nicholas I, with emphasis upon the forces and ideas that caused the Russian Revolution and with an analysis of the development of the Revolution since 1917.

Hist. 519. *GREAT BRITAIN. EMPIRE AND COMMONWEALTH*. (U,G) 2 hours credit. M T W Th F 8. Professor MARCHAM.

A study of the development of the British Empire and Commonwealth, particularly in the nineteenth and twentieth centuries. Emphasis upon the political, social, and economic problems created by British expansion into the continents of the world and the significance of the Empire and Commonwealth in relation to the world policy of the United States.

Hist. 529. *POLITICAL AND SOCIAL HISTORY OF TWENTIETH-CENTURY BRITAIN*. (U,G) 2 hours credit. M T W Th F 10. Professor MARCHAM.

Political, economic, and social changes in modern Britain: the Socialist State, its antecedents, pattern, and achievements.

Hist. 715. *NEW POINTS OF VIEW IN AMERICAN HISTORY, 1865-1914.* (U,G) 2 hours credit. M T W Th F 9. Associate Professor ADLER.

A survey of United States history from the Civil War to the beginning of the First World War. Leading political, economic, and social trends will be traced with strong emphasis upon recent additions to knowledge and newer interpretations.

Hist. 725. *AMERICAN INTELLECTUAL HISTORY.* (U,G) 2 hours credit. M T W Th F 11. Associate Professor ADLER.

An advanced course providing an integrated study of American culture from the late colonial period to the turn of the present century. This course attempts to explain the social, intellectual, and institutional changes concerned as interacting parts of Western society and emphasizes the emergence of social forms which are peculiarly American.

Hist. 735. *HISTORY OF NEW YORK, 1624 to 1866.* (U,G) 2 hours credit, undergraduate students; 2 or 4 hours credit, graduate students. M T W Th F 8. Mrs. Fox.

Local political developments will be traced in terms of economic and social backgrounds and will be related to the broader colonial and national scenes. The seminar will be held in the Collection of Regional History, a manuscript division with a large variety of letters, accounts, broadsides, newspapers, and other primary materials relating to the history of the region. These will be drawn upon for lectures, discussions, and the writing of term papers. Bibliographical aids, the techniques of using primary materials, and research into the history of particular localities will be stressed in relation to the individual needs of teachers of New York history.

SOCIOLOGY, ANTHROPOLOGY, AND RURAL SOCIOLOGY

*R.Soc. 12. *EFFECTIVE COMMUNITY LIVING.* (U,G) 3 hours credit. M T W Th F 7:30-8:50 A.M. Assistant Professor REEDER.

A consideration of the principles of sociology and their application to community problems. The course is designed especially for students who expect to live in a small community or work with rural people. Fee for materials, \$2.

*R.Soc. 44. *SCHOOL AND COMMUNITY RELATIONS.* (U,G) 2 hours credit. M W F 10. Laboratory period to be arranged. Associate Professor HOEFER, Assistant Professor REEDER.

A study of the school as a part of the community. Consideration will be given to the development of courses and programs designed to help prepare students for effective community living. This course is particularly designed for teachers of agriculture, homemaking, and social studies and for school administrators who are interested in utilizing the community as an educational resource or in making their program a vital part in community life. Although the course has this particular emphasis it will be of interest to anyone who is concerned with education as a part of community life. The laboratory offers an opportunity to apply some of the ideas which are developed in the class. Fee for materials, \$1.

Soc. 101. *INTRODUCTION TO AMERICAN SOCIETY.* (U,G) 2 hours credit. M T W Th F 11. Professor OPLER.

An analysis of American society dealing with American institutions based on kinship (family), locality (community), occupation, transmission of culture (education), and other factors. Emphasis is placed on basic traditions and values of American life and upon central tendencies as well as regional variations.

R.Soc. 103. *SOCIAL PROBLEMS.* (U,G) 2 hours credit. M T W Th F 8. Professor ANDERSON.

Major social problems of modern society viewed in terms of factors underlying social disorganization and individual maladjustment.

R.Soc. 126. *SOCIAL SERVICES TO INDIVIDUALS*. (U,G) 2 hours credit. M T W Th F 9. Assistant Professor HALL.

A study of the attitudes and behavior commonly encountered in helping people who have personal and social problems. A survey of social case-work methods, with particular emphasis on interviewing techniques.

R.Soc. 133. *LEADERSHIP FOR YOUTH GROUPS*. (U,G) 2 hours credit. M T W Th F 11. Assistant Professor HALL.

This is a course in group-work methods with emphasis on their application to youth activities. The use of group-work techniques and program materials as applied to 4-H Clubs, Scouts, school clubs, and other youth and community groups is discussed, as well as the responsibility of the community for developing and maintaining group-work services.

R.Soc. 135. *FARMERS' ORGANIZATIONS AND THEIR PROGRAMS*. (U,G) 2 hours credit. M T W Th F 11. Professor ANDERSON.

A study of the important farmers' movements in the United States. The organization, programs, and policies of present state and national farmers' organizations.

R.Soc. 612. *CULTURE AND PERSONALITY*. (U,G) 2 hours credit. M T W Th F 10. Professor OPLER.

A survey of the processes of training by which the individual is introduced to the precepts of his culture and becomes a representative of his culture. Special attention is given to individual variations in relation to culture and to the problems of the deviant in various cultures.

R.Soc. 020. *INFORMAL STUDY*. (U,G) Credit and hours to be arranged. Open to upperclass majors and graduate students in Sociology and Anthropology and Rural Sociology. Members of the staff of the departments.

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